HAWAII
HUMAN PROGRESS
AND HUMAN
SERVICES 2035
SCENARIOS
INTRODUCTION

What will human progress, human need and human services be in Hawaii in 2035? What implications does it have for today’s strategies for public and private human service providers and community partners? The Hawaii Human Progress and Human Services 2035 Scenarios offer a tool for the human services community to explore these questions for Hawaii in order to better inform future-oriented, long-term strategies and efforts. For this purpose, these scenarios consider a range of forces, challenges, and opportunities shaping human services and offer a plausible set of expectable, challenging, and visionary pathways for how human services and human service providers may change over the years to 2035.

These scenarios will be used at a Scenario Workshop on July 8, 2019 where participants will consider how successful their current directions and strategies would be in each scenario, what adjustments are needed and develop recommendations focused on the near term and the long-term future.

These Hawaii Human Progress and Human Services 2035 scenarios are an important part of a larger project on the futures of human services—conducted by the Institute for Alternative Futures (IAF) and supported by the Kresge Foundation. In addition to developing scenarios for the human services community in seven cities and counties and two states, IAF has developed a set of national human service scenarios. The national scenarios and these Hawaii scenarios will allow human service leaders, practitioners and partners to consider their own work in the context of these alternative futures, to challenge their assumptions about the future, to identify emerging risks and opportunities, and to formulate more robust strategies with a greater potential to advance their mission over the decades to come.
WHY SCENARIOS?

The future is uncertain. However, scenarios – different stories describing how the future may unfold – can be used to bound that uncertainty into a limited number of paths. These paths help us think about different probabilities in a larger space of possibilities. Scenarios also force us to consider the systems surrounding our topic and to clarify our assumptions. People who work with scenarios find more creative options than those who plan based only on the past and present. Strategies, plans, and actions can also be “future tested” against the different scenarios to assure robust initiatives rather than continued efforts based on outdated assumptions. Scenarios are thus a powerful method for systematically addressing the uncertain future.

METHODOLOGY

The Hawaii Human Progress and Human Services 2035 scenarios presented on the following pages were developed by IAF with the Hawaii State Department of Human Services (DHS), other state agencies and community partners. In creating these scenarios, we reviewed human services programs and activities, plans and documents and did interviews with human service providers and partners. We explored “driving forces” and developed preliminary forecasts for the state, economy, employment, the environment, technology, as well as trends within specific areas of human services (aging, behavioral health, child and family, disability, housing and income supports). We used those forecasts in two days of scenario development session, June 5 and 6, where more than 60 human services leaders gathered to review and refine the preliminary forecasts and develop the distinct scenarios presented below.

We used IAF’s unique “Aspirational Futures” approach which calls for exploring and developing scenarios in each of three zones (see Figure 1 below):

A “zone of conventional expectation” reflecting the extrapolation of known trends, the expectable future (scenario 1); What is the “most likely” future for Hawaii and human services?
A “zone of growing desperation” which presents a set of plausible challenges that an organization or field may face, a challenging future (scenario 2); What are key challenges over the next 15 years and how might they play out for state residents and their wellbeing? and
A “zone of high aspiration” in which a critical mass of stakeholders pursues visionary strategies and achieves surprising success (scenarios 3 and 4). Given key forces, including job loss to automation, changing attitudes and values and accelerating technology change, how is poverty eliminated or drastically reduced; how would human services evolve in these scenarios with reduced demand, more effective technology while being more “generative”? 
As we developed the scenarios there were aspects of the driving forces, key changes, that call for greater explanation than the scenario narratives allow. This larger explanation is given in the Appendix at the back of this scenario report:

- **Job loss to Automation** – estimates range from 14.5% to 47% of U.S. jobs could be lost to automation by 2030 (we’ve assumed 25% of jobs lost in all Scenarios)
- **Abundance advances** – a cluster of technologies that, if applied appropriately can lower the cost of living by providing in-home and in-community production of food, energy, and many home goods. (in Scenarios 3 and 4)
- **Guaranteed Basic Income** – faced with permanently high unemployment, a Guaranteed Basic Income would give the equivalent of $12,000 a year to each adult and $4,000 for each child in 2015 dollars (in Scenario 3)
- **Options for Increasing Low Income Housing Stock** – options include expanded government funding; increasing neighborhood density; encouraging accessory dwelling units; low cost 3D printed homes. (various options across the Scenarios)
- **Equity Rising** - “equity rising” is a fundamental trend that is occurring as a growing awakening to fairness or equity, including health equity. Differences among races, income classes, or other groupings that are avoidable and unfair are getting more and more attention. This change in attitude to support equity or fairness can greatly influence community cohesion and policies. A particular Hawaii-specific development related to this equity rising trend leads to Truth and Reconciliation
efforts in the Hawaii Scenario 3. The forces, history and evolution of these efforts is described in an accompanying document.

- The Human Services Value Curve – a vision of human services developed within the human services community.

As you read these Hawaii Human Services 2035 Scenarios consider how likely each is. And consider how preferable each is – which would you want to take place?
Hawaii Scenario 1: Slow Unraveling

Scenario 1 Overview
In the two decades between 2015 and 2035, Hawaii had economic, demographic, climate and social changes which shaped the need and delivery of human services. While some changes were beneficial, others were not and to many in Hawaii it felt like a slow unraveling of Hawaiian networks and support systems.

Approaching 2035, Hawaii’s economic growth paralleled the U.S. average\(^2\), with slow growth and periodic mild recessions. Hawaii’s employment, in the early 2020s was primarily distributed among three major clusters of industries: education and health services; trade, transportation, and utilities, and leisure and hospitality\(^3\). From 2016 to 2026 state-wide employment grew by 45,000 jobs to 755,950. This job growth would have been higher, but job loss to automation displaced tasks or full jobs in many sectors.

By 2024, Hawaii raised its minimum wage to $15 per hour. There were efforts to build a more equitable and prepared workforce in Hawaii, though work continued evolving and many jobs with benefits were shifted to piece work with fewer hours and no benefits.

Nationally, there was a net loss of 7% of jobs by 2025 and more by 2030; Hawaii’s job loss was a bit slower. Across Hawaii the job loss disproportionately affected women, single parents and communities of color, increasing those in poverty. Income inequality and the opportunity gap increased. Many children born into poverty remained in poverty while the wealthy got wealthier. Poverty in Hawaii remained high in pocketed areas. And financial vulnerability (having income above the poverty line but still being insecure) grew in the 2020s from its 2018 level of 37%\(^4\). Certain island communities, particularly Native Hawaiians, continued to experience disproportionate levels of poverty as well as homelessness.\(^5\)

The state’s population was on track to reach 1,657,500 by 2035, including a significant increase among those aged 65 years and above. By 2030, Hawaii had an older population of 475,000 individuals, representing 29.7% of the population\(^6\). In terms of demographic groups in the state, the largest in 2019 38% were Asians, 25% white, two or more races 24%, Native Hawaiian or Pacific Islander 10%, Black 2%\(^7\). Population growth was slowed by the departure of about 10,000 residents yearly, while 6,000 came to the state (and many of these were climate refugees from COFA and other nations). Of the 10,000 migrating

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\(^3\) Employment Projections for Industries and Occupations 2016- 2026, https://www.hiwi.org/admin/gsipub/htmlarea/uploads/Long-TermProjections-2016-2026-State.pdf


away, many were students who went the mainland United States for study or work opportunities and stayed there, many were families.

Climate change had major implications for Hawaii, such as more severe and frequent and extreme weather events, coastal erosion, sea-level rise, coral reef bleaching, ocean acidification and contamination of freshwater resources by saltwater. More intense and localized rainfall led to flooding, landslides and displacement of people. Sea level rise also displaced thousands by the late 2020s. There were also more days with higher temperatures.

While climate change was harmful to many across Hawaii, it disproportionately impacted the elderly and low-income communities. There were also economic impacts of climate change, including costly damage to infrastructure and loss of business revenues and periodic decreases in tourism after major hurricanes (with major impacts on Hawaii Island, Maui and Kauai). Local employment after these events did rebound and even increase during recovery and rebuilding.

Hawaii increased its sustainability efforts, including pursuing the goal of 100% renewable energy by 2045. In-state food production increased on farms, high tech green houses and community gardens. Costco made major investments to grow vegetables in the islands.

Across the islands, transportation improvements were completed (and washed out roads were rebuilt). Oahu expanded and improved its public transit programs, and these were important for many commuters. Honolulu successfully developed their high-speed rail in the 2020s, reducing traffic congestion in many parts of the city. Complete streets policies made roads safer and more convenient for all. Bike and scooter share networks expanded in denser neighborhoods on most islands. In the 2020s all the islands had ride sharing apps available (Uber, Lyft and their successors). Car sharing expanded; driverless vehicles were used by some by the mid 2020s.

Still, many Hawaii residents lacked transportation and had difficulty getting to work. For health care tele-visits or virtual visits were routine in 2020s, though some rural Hawaii residents lacked the internet or transport needed. And when environmental events made roads impassable, in some parts of the islands the rebuilding was slow.

Meanwhile, the information environment kept growing and technology increased its role in our lives including more interactions online and virtual reality, well beyond medical care. Intelligent agents in education, behavioral health and other sectors became smarter and increasingly more effective. Intelligent agents assisted with tasks for most jobs and for some the AI and robots did all of the work, displacing that human worker.

**Human Services** – The need for human services grew in the 2020s shaped by increased poverty, inequity, substance abuse and crime. Behavioral health needs grew, while services were harder for many to access, and health care costs continued to increase. Medicaid tightened eligibility and reduced payments.

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Climate Change in Hawaii, [http://www.hanaleiwatershedhui.org/the-science/climate-change-hawaii](http://www.hanaleiwatershedhui.org/the-science/climate-change-hawaii)


10 [http://www.honolulu.gov/completestreets](http://www.honolulu.gov/completestreets)
The Hawaii Department of Human Services (DHS) and the human service community used the Human Service Value Curve as its “true north compass” heading to the ultimate destination: sustained well-being of children and youth, healthier families and communities and opportunities for employment and economic independence. This meant integrity, coordinated service, understanding the unique needs of each consumer and pursuing population-wide prevention strategies.\textsuperscript{11}

Hawaii’s DHS’ “Ohana Nui” worked to break generational patterns of poverty by concurrently addressing needs of the entire family holistically, across silos. Ohana Nui addressed social determinants of health such as: housing and shelter, food and nutrition, health and wellness, education and economic support, and social capital. This approach, and others, were successful in strengthening the impact of human services.

Human service organizations enhanced their collaboration with schools, businesses and community partners to help families and individuals move towards self-sufficiency. Data integration across federal, state and county government agencies, schools and health care providers occurred securely and with privacy and discrimination protections. Predictive analytics enabled human services to best triage services when they were underfunded. Data and analytics allowed human services to anticipate and prevent many incidents such as child or elder abuse.

Many social service jobs were supported by cognitive computing and automation – this ranged from 80% of secretaries and receptionists to 10% of social workers. This allowed many human service workers to become more productive as inefficiencies in workflow were lessened.

**Aging Services 1**

In the 2020s, Hawaii’s age wave arrived. By 2030, Hawaii had 327,000 individuals over 65, 29.7% of the population.\textsuperscript{12}

Diabetes, dementia, Alzheimer’s and other chronic conditions worsened. By 2030, this meant more than 32,000 Alzheimer’s cases in the state; and 84,700 elders with diabetes (some still unrecognized or undiagnosed)\textsuperscript{13}. Seniors living in poverty remained at higher risk for preventable diseases.

As the number of elders needing long term care grew to 38,000 by 2030, residential care homes could meet less than half of that need and the costs of that long-term care was high. While in-home care and aging in place services helped many, thousands of elderly residents were underserved. The workforce, particularly for direct caregivers, was overwrought.

For many Hawaiians and residents of Hawaii, family and neighbors primarily filled the role of caregiver. There were educational efforts to help family members, caregivers and the community of Hawaii to be more informed and sensitive to conditions such as Alzheimer’s and dementia. This included training across

\textsuperscript{11} State of Hawai‘i, Department of Human Services, Strategic Plan 2018-2020, Appendices p. 7

\textsuperscript{12} Hawaii Community Foundation, Caring for Our Kupuna: Building an Aging in Place Movement in Hawaii, https://www.hawaiicommunityfoundation.org/file/pdfs/Caring-for-Our-Kupuna-Study.pdf

\textsuperscript{13} Alzheimer’s impacts around 1 in 10 adults over the age of 65, Alzheimer’s Association, 2016 Alzheimer’s Disease Facts and Figures, http://www.alz.org/facts/

human service agencies on tools for early intervention. And while a position within the Executive Office of
Aging dedicated to the Alzheimer’s issue was created, funding was often inadequate.

The Kupuna Caregiver’s Act, which provides financial support for familial caregivers working outside the
home, continued but faced periods of political pushback regarding expansion. In the 2020s, Medicare reduced payment levels to health care providers who in turn reduced services to their patients. The Medicaid Waiver did expand to offer supportive housing services and respite housing; but the demand outpaced availability. Longer lives, coupled with higher costs for supplemental health insurance and medications, increased the number of seniors living in poverty and or being financially vulnerable.

Housing for older adults, apart from or before they needed long term care, remained a challenge for many. Multigenerational living grew and informal group homes became more common. Naturally Occurring Retirement Communities (NORCS) expanded – providing better access to services and interaction that enable seniors to better age in place. However, developing NORC’s remained more challenging in rural areas14.

Zoning and regulations in many communities allowed accessory dwelling units (ADUs), or Ohana Units, to be added to a home or built in the yard. Many seniors took advantage of them to downsize and age in place. However, through the 2020s, as the high cost of rent drove some older adults out of their homes, some got access to the limited public housing or voucher subsidies, some moved in with family and friends, some downsized to ADU’s, while others became homeless.

Smart home and other technology influenced housing and services for older adults. Virtual visits and affective computing did enable easier access to medical and human services and generally increased interaction for elders. Villages, informal group homes, and Intergenerational homes used technology to manage scheduling, encourage interaction, and provide other supportive services to elders and other residents. However, increased use of technology brought some challenges such as periodic data breaches.

Meals programs, including Hawaii Meals on Wheels, faced the challenge of rising cost of foods, and periodic weather events that made it harder to deliver meals to more isolated areas in Hawaii. When possible, these services used locally produced ingredients. New efforts for local food production, including aeroponic15 and hydroponic farming, did expand and for some food programs encouraged partnerships to support the local economy and provide culturally appropriate meals. In the later 2020s, autonomous vehicles and drones were deployed across the islands reducing some isolation and providing lower cost meal distribution.

Partnerships across providers allowed customized aging service delivery. These better engaged individuals and families in care plans. Health care did more to allow seniors to determine the quality of their lives and the circumstances of their deaths. Human services and the community did more preparation for and quality assurance of adult guardianship.


Behavioral Health Services 1
The need for behavioral health services increased, despite prevention efforts. Treatment services were expanded in some settings, particularly with non-physician providers as physician shortages grew. Treatment became less stigmatized and technology was more widely used in the 2020s, but overall unmet needs grew.

Behavioral health prevention included efforts focused on creating healthy physical and social environments. The Hawaiian cultural renaissance, growth of the Hawaiian language, and land-based programs increased native Hawaiian health outcomes. Still, the impacts of ACEs and intergenerational trauma expressed themselves and caused challenges throughout the 2020s for youths and adults.

Teachers, school counselors, police departments and in-school clinics were trained to identify behavioral risks and needs and provide trauma informed care. However, funding constraints often meant the needs were not addressed.

Drug dependency, substance abuse and related co-occurring disorders increased while access to treatment and success rate varied across race and socioeconomic classes. Substance abuse treatment became more integrated with behavioral health, particularly as there are often co-occurring disorders. DHS and DOH in Hawaii continued to primarily serve those with Medicaid and Medicare. Peer specialists were extended across Hawaii communities to aid in substance abuse treatment outreach. Still, facilities where patients could successfully get treatment for multiple behavioral and physical conditions remained scarce. And different funding streams for substance abuse, corrections, mental health and others proved a barrier to holistic care.

The Hawaii Police Department trained 20% of their patrol officers on crisis intervention and behavioral health informed actions. Still, incarceration rates remained highest for Native Hawaiians.16 The 2020s saw increased mental health staffing in Hawaii’s jails and correctional centers as they remained major sites for delivering behavioral health care.

Behavioral health services were impacted by physician shortages and funding constraints. Hawaii’s physician work force continued to decline, with a precipitous drop in independent primary care practices and inability of JABSOM to train enough graduates seeking careers in primary care to fill the need. Low reimbursement rates also contributed to the lack of physicians. By 2025, because of Hawaii’s physician shortage only half the need on Oahu could be met; and this was worse on the neighbor islands.

And a shortage of independent behavioral health providers accepting Medicare or Medicaid continued to limit access to care. This was partially offset by increased hiring by Federally Qualified Health Centers and by Hospital systems including Queen’s, Hawaii Pacific Health, and Kaiser. Increased reliance on non-physician practitioners such as APRN’s and psychologists, and increased skill levels of paraprofessionals, accelerated access to behavioral health services. Psychiatric consultation to primary care through the Collaborative Care Model helped fill the gap caused by the shortage of psychiatrists, but this was limited by a worsening shortage of primary care providers.

Behavioral health, along with medical care, could often have limited availability. Those who needed care and could afford to move to the mainland, often did while those unable to leave dealt with expensive complications of inadequately treated chronic illnesses. There was increased pressure on limited emergency room and hospital beds in many island communities, exacerbated by behavioral health events.

Insurance companies and providers took over more case management, which impacted the workforce population for behavioral health as more social workers and others moved to insurance companies. This had implications such as homeless outreach service providers losing social service workers who had served those experiencing homelessness. Homelessness and suicide rates for persons with behavioral health issues remained high across Hawaii.

In the 2020s, behavioral health care in the community was affected by technological advancements. App-based services, while not “practicing medicine,” supplemented behavioral health care from human providers. These were particularly helpful in rural or isolated areas and where the shortage of behavioral health providers was significant.

Child and Family Services 1
Throughout the 2020s, the demand for child and family services was shaped by substance use and abuse, economic recessions, housing instability, environmental disasters, and unemployment while funding for services dropped periodically. Delivery of services evolved with greater integration of data and communication across public and private service providers, and between health and social service sectors.

Problems such as drug usage increased, particularly on the Big Island. The harmful effects of increased life on the internet, such as cyberbullying and sex trafficking, complicated needs for child services. However, Hawaii accelerated its two generation strategies as child and family services focused on prevention. The Family First strategy was successful in reducing the number of children entering foster care by as much as 20%. Community services were an important part of the prevention strategies. Child service providers, aided by technology such as virtual visits, could provide more services to families.

Data integration across local agencies (schools, police, health care) allowed better awareness of the needs of each child and each family. Data analytics in real time helped service deliverers make better informed decisions and increased their productiveness. Privacy and discrimination protections enabled this data sharing. However, some unintentional profiling periodically resulted.

Federal spending on childcare and early childhood development programs, including Head Start, was reduced in the late 2010s. Fewer kids aged 0 to 4 received subsidized childcare; fewer had Head Start or Pre-K – increasing the burden on low income families (especially single parent homes). To address this, Hawaii worked on incentivizing more people to enter the child service field and ensured training and supportive technology. Childcare, Head Start, and Pre-K providers were provided better training. Interactive learning technology, using affective computing, tablet apps and personalized learning activities, stimulate engagement and chart the child’s development. These enhanced child learning and development, but human connection remained vital.

There was greater attention placed on the social determinants of health for children aged 0 to 5 and more integrated and generative approaches. This included understanding and bettering social determinants such as early life stress, socioeconomic standing, relationship with parents and caregivers, and access to early
education\textsuperscript{17}. This included partnerships across areas of child services, including across behavioral health, primary care, education and others, which worked with families to improve social determinants.

**Disability Services**

Physical and development disabilities increased across Hawaii in the 2020s. A major source of increased disability in the state was the growth of Alzheimer's and diabetes. By 2030, there were more than 32,000 cases of Alzheimer's\textsuperscript{18}; and more than 215,000 people with diabetes – many of whom had significant disabilities.

Overall, disability services grew more focused, benefit levels were reduced, eligibility requirements stiffened, and barriers to access, such as needing to reapply for payments, strained families. The number of people in the state with disabilities who were not eligible for services increased; often putting greater strain on their family caregivers. Disability service providers used automation and cognitive computing to support their work and focused on empowering self-sufficiency of persons with disabilities, though spending fluctuations left many unserved or underserved. DHS increased its support for civil legal representation to obtain services, but this often entailed a long administrative process during which the client was not receiving needed services.

Periodic cuts in disability services led to greater demand on law enforcement, prisons and hospitals, as well as increasing homelessness among disabled.

As disabilities increased, there were many remarkable medical and technical advances to aid persons with disabilities (e.g. advanced prosthetics, nerve damage and spinal cord repair, vision replacement), but many were expensive and not covered by Medicaid, Medicare or other insurance programs.

Intellectual and developmental disabilities (IDDs) growth outpaced the availability of providers. There was better prenatal care and some increase in early diagnoses and intervention, including genetic coding, but continued substance abuse and genetic causes contributed to IDDs. The degree of care for people with IDDs fluctuated in the 2020s, often related to Medicaid policy. The direct care workforce for IDD individuals was shaped by periods of limited immigration. IDD agencies enhanced information systems and increased integration with health care providers, schools and others.

Generally, electronic health records improved. However, barriers to care such as fragmented financing of services and fewer doctors accepting Medicaid and Medicare, persisted. It was particularly challenging for persons with disabilities who also needed behavioral health care.

In Hawaii, there were thousands of children with Autism spectrum related needs. Education became more inclusive of these children and those with other developmental or intellectual disabilities. The more severe cases received costly separate services. Hawaii pushed for more inclusive classroom and school settings, and for more certified staff and licensed behavioral analysts to be included in schools, but the need outpaced availability of certified and licensed staff. Schools and other disability service providers encouraged increased engagement in the community for persons with disabilities.

\textsuperscript{17} Office of Disease Prevention and Health Promotion, *Early Childhood Development and Education*, https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/early-childhood-0

\textsuperscript{18} Alzheimer’s Association, 2016 *Alzheimer's Disease Facts and Figures*, http://www.alz.org/facts/
Housing and housing services remained major issues throughout the 2020s in the state, particularly as rent increases outpaced pay increases for most low-income workers and work continued to evolve. Hawaii pursued culturally appropriate housing models and various methods for increasing affordable housing, which took the form of high- and low-rise developments. Hawaii made efforts to reduce or tax non-resident home ownership and short-term rentals, but with mixed success. Some of the tax revenue from these was redirected towards the creation of more affordable housing.

Oahu’s population grew faster than neighbor islands, which had implications for housing and houselessness. The Mayor’s 2019 Affordable Housing Strategy\(^{19}\) aimed to address the need for more than 24,000 additional housing units with new and revised policies, incentives, regulations, and investments in partnership with developers, builders, and other stakeholders. Key priorities included the use of city lands for affordable housing, rental housing funding, the accessory dwelling unit program, transit-oriented development (TOD) infrastructure investments to support affordable housing, and new TOD zoning around the future rail transit stations\(^{20}\). Another aspect related to transit-oriented development, was less need for parking spaces and some increased availability of land for housing. Honolulu embraced data driven and performance management practices, e.g., tracking its targets for housing unit production, ADU production, and various metrics around homelessness, among other key initiatives of the city\(^{21}\).

However, across Oahu, the share of low-income households that experience severe housing cost burden continued to increase. By the 2020s, the island was short many needed low-income units\(^{22}\). Statewide HPHA used a mix of programs and policies, including Housing First, various incentives and financial mechanisms to make more projects available (e.g. federal tax credits, low-interest loans, and negotiated land costs)\(^{23}\).

Across the islands Accessory Dwelling Units (ADUs) added a few thousand low income units in the 2020s. Multigenerational living increased (among related and nonrelated residents in the home). Households in many communities relied on sharing of goods and services to meet some of their needs.

Resources were invested in homeless shelters and in programs that focused on addressing houselessness by adding new housing units for at risk groups. Organizations that provide affordable housing in Hawaii used various incentives and financial mechanisms including federal tax credits, low-interest loans, and negotiated land costs to make projects available\(^{24}\).

While the special action team report in 2018 recommended to the governor that at least $100 million annually for ten years be allocated to the Rental Housing Revolving Fund, the Hawaii State Legislature

\(^{20}\) City and County of Honolulu, *Implementing the Affordable Housing Strategy*, [http://www.honolulu.gov/rep/site/dpptod/officehousing_docs/ahr_docs/AHR_Incentives_handout.pdf](http://www.honolulu.gov/rep/site/dpptod/officehousing_docs/ahr_docs/AHR_Incentives_handout.pdf)  
\(^{21}\) [http://www.honolulu.gov/dashboard](http://www.honolulu.gov/dashboard)  
\(^{23}\) [https://dashboard.hawaii.gov/stat/goals/5xhf-begg/ezet-axai/88dr-z9q5](https://dashboard.hawaii.gov/stat/goals/5xhf-begg/ezet-axai/88dr-z9q5)  
\(^{24}\) [https://dashboard.hawaii.gov/stat/goals/5xhf-begg/ezet-axai/88dr-z9q5](https://dashboard.hawaii.gov/stat/goals/5xhf-begg/ezet-axai/88dr-z9q5)
failed to fund at that level\textsuperscript{25}. Consequently, the production of rentals for those at the 60% AMI level and below was insufficient. Across Hawaii, while the low-income housing supply grew in the 2020s, it did not keep up with the need. A high percentage of households in the state remained housing cost-burdened. For some, the “welfare cliff” related to housing remained in the 2020s. Thus, as better paying jobs did become available, some receiving housing support did not take those jobs for fear of losing their housing subsidy.

Housing services coordinated with other services to assess the range of a client’s needs and to identify the best, case-specific plan of action to ensure the right mix of resources and services. However, resources were often not sufficient to meet all needs.

The overall rates of homelessness in the state remained stable\textsuperscript{26}. Extreme weather events became more frequent in Hawaii, making those already homeless more unstable. Shelters were consistently overcrowded. As weather events intensified more homes whose location was vulnerable or which were not built to code, were damaged, increasing temporary homelessness. Throughout the 2020s networks of churches and other community organizations stepped up their shelter efforts during severe weather.

\textbf{Income Supports 1}

Income support programs continued to assist individuals and families living in poverty or economic vulnerability, and need persisted throughout the 2020s and 2030s. While some income support programs grew, overall, they did not keep pace with need through the 2020s.

Income support programs in Hawaii included Temporary Assistance for Needy Families (TANF), Supplemental Nutrition Assistance Program (SNAP) through the Hawaii Electronic Benefit Transfer (Hi/EBT) system, SEE Hawaii Work and On the Job Training Program (OJT), the federal Earned Income Tax Credit (EITC), Hawaii EITC, and others. Incomes were also supported by unemployment benefits, VA pensions, social security and disability.

Cash allowance levels under TANF were cut then rebounded in the 2020s. By 2024, TANF reforms had followed the recommendations of the American Public Human Services Association (APHSA) on TANF as a tool to stimulate meaningful employment. However, spending levels through the 2020s were not sufficiently increased or adjusted, even as need grew.

While immigrants were increasingly denied federal TANF payments, those who came from Pacific Islands, particularly the COFA nations, continued to have access to the state funded supports from Temporary Assistance for Other Needy Families (TAONF).


\textsuperscript{26} http://www.honolulu.gov/rep/site/ohou/PIT_2019_Highlights.pdf
The Earned Income Tax Credit (EITC) maintained its bipartisan support and Hawaii continued its state-level EITC, which reduced state taxes by 20% of the value of the federal credit the taxpayer receives\textsuperscript{27}. However, the state EITC could not reach everyone who benefits from the federal EITC. For some low-income families, the standard deduction and other tax provisions might have already eliminated any state income tax liability. Unlike some states, which give their taxpayers their state EITC even if the taxpayer paid no taxes, Hawaii’s reduction was only to state taxes paid. Federal and state EITC payment levels were held flat during the late 2010s and grew slightly above inflation in the 2020s. However, job loss to automation reduced the number of people benefitting from the EITC.

Funding cuts during the 2017-2021 Administration to nutrition programs decreased the number of places and programs where low-income children received daily meals. Higher barriers to qualifying further limited the number of kids getting food. Barriers to accessing SNAP benefits, such as a ban on drug felons, and requiring photo IDs, expanded across the state.

As Hawaii’s agricultural production increased across the islands, more SNAP recipients were able to double their money by purchasing Hawaiian grown products at farmers markets. Hawaii’s HINET continued to supporting education and training by integrating tuition payments, with SNAP benefits and transportation subsidies.

Applying for SNAP became easier and faster in the 2020s, as better information systems linked individuals and their data with other government programs. Once an individual or family is at or below a certain income level they are automatically qualified for SNAP and other relevant programs. SNAP’s Employment and Training programs worked to operate as a team with other employment programs.

Job training programs targeted jobs that were not likely to be automated and for which the person could be trained and had the relevant capacities. Community colleges in the UH system were enhanced, and programs expanded. But even after the training in many communities’ there were too few job openings and/or the people offered jobs did not have reliable transportation.

Other income supports included assistance programs such as rent to work\textsuperscript{28}, which helped persons experiencing homelessness with rent support to achieve stability. Federal loan forgiveness programs helped some, but debt remained a barrier to wealth building for many.

\textsuperscript{27} ibid.

\textsuperscript{28} http://www.honolulu.gov/agencies/executive-branch/mainmenu-dcs/mainmenu-dcs-wh.html
Hawaii Scenario 2: Uncomfortable Truth

Scenario 2 Overview
In the years approaching 2035, Hawaiians and residents of Hawaii were forced to respond to economic, environmental, demographic and social challenges which changed the course of lives for many across the islands. For most this meant confronting many uncomfortable truths.

Nationally, the economy was unstable and vulnerable to economic shocks, the largest being the Great Recession of 2023, followed by job loss to automation. In Hawaii, the Recession was particularly challenging to tourism, employment, tax receipts and human service spending. And due to Hawaii’s economic reliance on tourism, the local economy was exposed to foreign exchange rate fluctuations, which were common throughout the 2020s.

Automation was an extension of the digitization of life, which did bring some benefits such as technological and medical breakthroughs. Some benefits in Hawaii included the automation of marine terminals, which resulted in millions of dollars in cost savings, and autonomous vehicles which by the later 2020s lowered the cost of transportation and reduced isolation. But overall, economic challenges and automation led to a diminishment of the middle class and greater economic and social inequity.

Natural disasters hit during the 2020s, the biggest single one being the Great Aleutian Tsunami (GAT) which inundated all of the islands. While normal Tsunami waves might be 6 to 16 feet, the GAT was twice that. And some locations on the islands, such as Hilo, have a shore line that amplifies the wave. In Honolulu the inundation came within blocks of the H1 expressway or actually touched it. There was great harm to airports, hotels, homes, businesses and people. The state was not equipped to facilitate the long-term housing needed after the Tsunami.

Apart from the GAT, climate change in the 2020s brought more frequent and severe extreme weather events, coastal erosion, sea-level rise, coral reef bleaching, ocean acidification and contamination of freshwater resources by saltwater\(^{29}\). Intense and localized rainfall frequently led to flooding, landslides and displacement of people. Higher temperature days increased in number. As sea levels rose and shorelines eroded, more coastal communities were impacted. Hawaii’s movement towards renewable energy were slowed due to disputes over land use, energy pricing, net metering and other business issues.

Climate change had been worsening Hawaii’s homeless problem for decades as migrants from the Marshall Islands and other COFA nations had added 20,000 people to the state by 2018 and growth accelerated in the 2020s. Some of these migrants, unable to find work, and not eligible for many federal benefits, ended up without homes or houses.

Isolation of some island communities increased in the 2020s. Storms, erosion and sea level rise caused huge road damages, which was particularly harmful to communities that had only one road for access. Some methods of relocating or moving roads further inland forced coastal communities to be dislocated.

Climate Change in Hawaii, http://www.hanaleiwatershedhui.org/the-science/climate-change-hawaii
Overall, there was insufficient planning and action, and many roads were inundated. Distribution networks for food, medicine and other necessities were periodically disrupted. While drones and other tools helped fill the gap, more and more areas had unreliable access to these goods. The high-speed rail in Honolulu was never realized.

Meanwhile, Hawaii’s population was aging. Elder abuse increased, particularly related to economic downturn. More older adults and kupuna across Hawaii were left without reliable access to food, water and medicine after environmental disasters and road collapses. Some familial and community networks were disrupted, increasing isolation.

These ongoing challenges led to increased stress, alcoholism, drug use and crime. Some violence resulted from limited resources and desperation as individuals and families struggled to meet their basic needs. The “brain drain” grew as young people, or those who would otherwise contribute to the workforce, emigrated to the mainland. In some areas, as these populations left, they left behind a history of values which then weren’t passed on or continued. And across the state, “driven by greater inequities, many communities and cultural groups banded together.

However, in other areas, the opposite occurred. Communities of Hawaiians, and other cultures, reinforced their values of resiliency, self-sufficiency and community caring which allowed them to better endure challenges. For some Native Hawaiians, historical practices and values guided survival. Many were thriving as they relied on themselves, their communities and the earth to best survive, regardless of outward disruptions in services and collapse of systems. Living “off the grid,” partially or fully, increased as did the sharing economy.

These challenges shaped human services. The need grew while resources were being reduced. Governmental cuts sometimes meant that many turned to local nonprofits, foundations and churches, but these organizations were often struggling, and some went out of business during the Great Recession.

Hawaii’s DHS and other providers used the human service value curve as its “true north compass” and “Ohana Nui” as a strategy towards breaking generational patterns of poverty by concurrently addressing all of the basic health and human services needs of the entire family holistically, across silos. However, faced with the recurring cuts to human service programs, even while needs grew, DHS and human service organizations pressed even harder to move funds and services across silos to best collaborative with the decreasing number of individuals and families they were able to serve.

Challenges were not limited to Hawaii, and across the United States people became more politically divided. Many were overwhelmed and experienced “compassion fatigue” which impacted their lives - personally, professionally and in the voting booth. Elected officials, from the federal level down, often focused attention away from social services.

Ultimately, human service organizations were forced to “do less with less.” Many had to automate what they could, to collaborate to ensure that the funds and services provided were deployed most effectively, and to reinforce their overworked and underpaid employees on the importance of their mission.

Overall about 15% of human service jobs were lost to automation and cognitive computing in the 2020s. Many other jobs were cut when state or federal funding was decreased. And the workforce for human
services were also dealing with challenges, including the devastation of GAT, which impacted their abilities at time to provide services.

Aging Services 2
As the elder population of Hawaii grew to nearly 30% of the population by 2030, other challenges such as severe weather events, isolation, high cost of rent, and lack of caregivers led to a near crisis for the aging services field.

Diabetes and Alzheimer’s in seniors brought challenges. Alzheimer’s impacted 1 in 10 adults over the age of 65; by 2030, this meant more than 32,000 cases across Hawaii. Diabetes rates of elders increased. By 2030, there were 84,700 diagnosed and undiagnosed cases of diabetes for seniors in the state. Diabetes related complications, such as visual impairment, renal failure and leg amputations, impacted more than 10,000 older adults in the state.

Health disparities across racial and socioeconomic lines continued and worsened. Many elders had multiple diagnoses and barriers to services, including lack of insurance, transportation difficulties, or provider shortages in their community. For many elders their health problems compounded. The 2023 Recession saw unemployment skyrocket and cuts to government budgets for aging services; Hawaii had to close many senior centers and reduce Hawaii Meals on Wheels and other nutrition programs. Familial abuse, crime or taking advantage of elder increased. The Adult Protective and Community Services Branch (APCSB) and Adult Protective Services (APS) were often unable to focus on prevention and were only called to intervene when situations were dire.

When the GAT struck, it left many communities isolated and older adults were particularly vulnerable. Many went without healthy food, water and necessary medications. More seniors were aging in place without adequate services and the emotional wellbeing of many isolated seniors declined. There was a greater burden on first responders and medical support systems.

There were technological and medical breakthroughs with the potential to aid older adults, but most of these were not accessible to low-income seniors. And many had to rely on family members for their long-term care needs. Economic downturn impacted families in different ways. Multigenerational living increased due to financial pressure, but some families on the more rural islands were disrupted as young family members migrated to Hawaiian urban areas or the mainland in search of employment. When family members did fill the role of caregivers, there were often experienced emotional, financial, and physical difficulties themselves. Simultaneously, more older adults cared for children and grandchildren as substance abuse increased, which added pressure to elder health concerns.

In some communities, members banded together and reinforced their commitment and ability to care for older adults, but often with little support from aging services or medical care.

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32 Hawaii News Now, Number of crimes against the elderly triple on Oahu over last decade, https://www.hawaiinewsnow.com/2019/01/29/crimes-against-elderly-triple-oahu-over-last-decade/
Behavioral Health Services 2
The need for behavioral health services increased for many reasons, but particularly related to increased poverty and severe weather events. But the funding for, and availability of, services diminished. Many service providers, given the limited resources, retreated into silo's and were unable to provide the holistic care needed. Another side effect of silo’ed services was duplication and fragmented care which led to less maximized outcomes.

A major barrier to accessing care was lack of insurance and in Hawaii there was a major lack of behavioral health providers across the state, particularly as fewer accepted Medicaid.

Untreated mental illness and behavioral health problems had ripple effects throughout communities. For example, for young people with behavioral health issues, educational outcomes decreased. While older adults experienced greater instances of elder abuse. Across ages for those with behavioral health issues, suicide rates increased along with instances of homelessness, unemployment and other familial and social challenges. More and more people were self-medicating with drugs and alcohol.

Behavioral health expert systems, delivered via smart phones, did become a more common option effective by the mid- 2020s but they are only available to the affluent or those with expensive health insurance or managed care plans like Kaiser Permanente (this did include some of the states’ Medicaid managed care systems). And they were not appropriate for severe mental illness and were not well received by many. Prisons remained leading sites for providing behavioral care, but the quality and effectiveness of the behavioral health provided varied. The police department of Hawaii was unable to continue diversion strategies when funding was cut; as such, more persons with mental illness were incarcerated. Native Hawaiian and Black populations were incarcerated at higher rates than other population groups in the state. When incarcerated, many individuals did not receive the mental health services they needed.

Child and Family Services 2
The need for child and family services grew for most of the two decades to 2035 while availability of services decreased. Increases in poverty contributed to more adverse childhood experiences - ACEs (including intergenerational trauma, child abuse and neglect, domestic abuse, addiction including opioids, teen pregnancy, housing insecurity, food insecurity and depression) that negatively affected gene expression for years to come. Cuts to family programs such as child care and housing subsidies disproportionately impacted ethnic minorities, native Hawaiians and women across the islands.

The need for foster care grew, but prevention programs such as Family First helped to moderate the number of children that entered foster care. In some instances, the Great Recession was a motivator for more families to take in foster children as a source of income. Across Hawaii, many community and kinship networks cared for children. For court proceedings, courts appointed more individuals as guardian ad litem to represent the child or adult, who could not represent themselves, for court proceeding.

The number of disconnected youth (not in school or working) increased. In many low-income communities on the islands, disconnected youths led to increased gang activity. This contributed to higher juvenile justice involvement and incarceration rates, with native Hawaiian youth involved in the foster care program and juvenile justice programs at higher rates.
Given the Recession, family instability, and dramatic weather events, the number of youths experiencing homelessness increased.

Adult protective services and refugee assistance services were cut repeatedly in the 2020s. Other federal programs that experienced cuts, or elimination, included: child care subsidies, programs to provide school clothing, transportation assistance, home repairs funding, and job training. For some of these the state filled some of the gaps. And in some parts of the state faith-based, philanthropic and other community groups increased their efforts to address some of these unmet needs.

Human service providers automated some of their work to deal with staff cuts. Losing the human workforce meant more who needed care were receiving services from technology tools which at times did not relate to the different local issues and cultures of Hawaii. With more people out of the workforce, the tax base for services, including to fund research on effective automation, diminished. Integrated information systems helped inform how to best use dwindling funds. Ultimately, automation did provide cost savings but was often not adequate to address the tasks and needs of child and family services.

**Disability Services 2**

The increasing number of people with disabilities faced additional challenges as economic decline, severe weather events and cuts in services compounded.

Behavioral health services were more stigmatized and people, across various cultures, were generally less inclined to get care. There was more self-medication with drugs and alcohol, which increased the need for substance abuse services. Ultimately, incarcerations increased and there was a greater “criminalization” of persons with intellectual and developmental disabilities and mental illness.

There was a major shortage of providers and specialists to meet the needs of persons with disabilities. Much of the workforce in disability services retired or aged out of the workforce or were lost due to budgetary constraints. Immigration limitations meant that some immigrants who would have been part of the direct caregiver workforce never came to the state. Many caregivers for IDD individuals, kin or hired, were aging themselves and limited in their ability to provide care. There were fewer group homes for this population in the 2020s and less monitoring of the homes that remain. While disability incidence was counted on annual Census Department surveys, the 2020 decennial census had lower participation rates, resulting in an undercount for the state’s population and consequent underpayment on many federal programs in the 2020s, including disability programs.

The increase in older adults brought increased disabilities. By 2030, there were more than 32,000 older adults in the state with Alzheimer’s. This included those who retired to Hawaii from the continental U.S. or other areas and were often without familial support. Conservatorship programs and related legal processes were often overwhelmed.

By 2030, more than 215,000 people in the state with diabetes, including 22,000 cases with complications including renal failure, amputations and visual impairments.

There were technological and medical advances that removed disabilities or lessened their impact, but most were not accessible for low-income. This heightened the differences between those who are sufficiently well off to be newly enabled rather than disabled, versus those who couldn't access these tools.

Supportive housing for those with relevant disabilities did not increase as much as the increased demand in the 2020s. And whether in supportive housing, living with family, or alone, extreme weather events periodically washed out roads or flooded infrastructure leaving some communities and their residents with disabilities further isolated.

Given economic conditions, severe weather events and the GAT, more disabled residents were forced into homelessness and had reduced access to services. Among the several consequences was the rise of premature deaths among those with disabilities.

Other challenges included fewer parents vaccinating their children and a growing distrust of the health care system. The spread of various disabling diseases, such as that seen with the Zika virus, hit Hawaii multiple times in the 2020s.

Some island communities were able to care for members with disabilities through networks of support, but these volunteer networks were seldom able to provide all the assistance or services the person with disabilities needed.

**Income Supports 2**

The Great Recession and other economic challenges increased the need for income supports, even while the funding for those programs, including TANF and TAONF, SNAP, and EITC, was reduced and eligibility tightened. Cuts to income support programs were particularly harmful to populations that had historically been oppressed across Hawaii.

TANF experienced cuts and limitations and the job categories TANF recipients could seek were narrowed, even while automation was eliminating jobs in many of those categories.

In response to challenges, communities and families across the Islands became more self-reliant, often growing more of their own food. There was greater involvement on the informal or underground economy; this included legal and illegal services. However, the tax losses to the state from the informal economy negatively impacted services.

The EITC had slightly reduced payment levels during 2017-2021 but grew slightly above inflation through the 2020s. Hawaii continued its EITC efforts, however ongoing job loss to automation as well as recession-induced unemployment during and after the 2023 Great Recession, reduced the number of families benefiting from Federal and Hawaii EITC payments.

Despite increasing food production, extreme weather events harmed crops and flooding and landslides reduced access to food and to people. The SNAP program suffered significant cuts. Moving SNAP into a block grant further reduced its economic and nutritional impact, disproportionately harming low income and historically marginalized populations. After periods of political cuts and support, in the 2020s - despite overt need - the SNAP program ended all together.
More people required emergency assistance, medical assistance, and temporary disability assistance but there were fewer financial resources and medical services available.

**Housing Services 2**

Barriers to affordable and secure housing were a repeated problem for residents of Hawaii throughout the 2020s. Rents and housing costs were high and often overwhelmingly high as job loss and poverty increased. Federal housing assistance declined and funding for the Rental Housing Revolving Fund (RHRF) was reduced, leading to even less production of low-income housing, especially permanent supportive housing.

In most years across the islands, Hawaii housing services had to determine who got what services, often with a large share of the needy or eligible group not getting any of the services.

Job loss to automation, or because of the economic recession, was a major factor contributing to housing instability. Other factors included cost burden for rent, domestic violence, and lack of physical and behavioral health care. Large numbers of people lost their homes while human services had little to offer in response. Homeless populations soared while spending on them dropped. Services for people experiencing homelessness were often not able to address enough of their needs to enable stability.

Extreme weather and sea level rise, and other flooding events, including the Great Aleutian Tsunami, displaced many from their homes and caused extreme destruction. Emergency services, along with churches in some areas of Hawaii, provided temporary shelter and meals. However, Hawaii was not equipped to handle the long-term housing needs after the disasters. The rebuilding process was slow and increased inequities.

Across many islands’ encampments or “tent cities” increased on beaches, underused marinas and other areas. The state had responded with an increased “criminalization of homelessness”; ticketing or removing homeless from major tourist areas34 while spending more for homeless shelters. In the 2020s this tension remained and periodically heightened, though there was more tolerance for encampments in more remote or less visible areas. Challenges increased when storm related rain and flooding affecting encampments. Public health outbreaks repeatedly occurred.

More and more non-residents bought properties in areas that had been least affected by the tsunami, and there was no vacancy tax. This further reduced housing options for displaced residents and disrupted community connections.

More related and unrelated individuals continued to share housing units and more Ohana units or ADUs were built in yards or attached to existing homes. However, there were regulatory restrictions to secondary dwelling units that led to some unlicensed additions and in some neighborhood’s other neighbors or HOA regulations were hostile to the additions.

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Hawaii Scenario 3: Aloha Intelligence

Scenario 3 Overview
The 2020s in the U.S. saw transformations in values and attitudes, economics, and policies. While there was slow but steady economic growth and only mild recessions, there were millions of jobs lost to automation, much paid work shifted to “gig work”, and 3D printing moved manufacturing into homes and communities. A shift in attitudes and values supporting equity and inclusion, which had been rising for decades, became a widespread force and played a major role in policy shifts. Policies in health care (Medicare for All), criminal justice, income supports, housing, and transportation transformed. Hawaii was shaped by and in some cases led in these changes.

Hawaii’s employment did grow primarily in areas of education and health services, trade, transportation, utilities, leisure and hospitality. Industry clusters that provided particular growth included transportation and logistics, research and development, and energy innovation. However, automation led to job loss in each of those sectors as well as retail trade, food services, and manufacturing. Some of the jobs shifted to “gig work”. Hawaii’s minimum wage increased to a living wage for those employed. Pay protections were put in place for gig workers, as well as some benefit mechanisms including short-term unemployment, and retirement savings.

Nationally the growing inequities in the late 2010s accelerated the value shift that integrated equity and inclusion to address systemic racism and oppression. The deconstruction of systems of oppression was understood as an important aspect of economic prosperity and public health. Hawaii was a leader in equity-focused policy and community action and, for many, building upon the Hawaiian values. And this was paralleled by the growth truth and reconciliation efforts nationally and in many states. In Hawaii, this took the form of trauma informed and trauma responsive care ultimately becoming healing care. Simultaneously the Hawaii Truth & Reconciliation program was having a major impact on the state. (See the accompanying description of the forces leading to the Hawaii Truth and Reconciliation as well as the parallel changes in policies and the economy).

Also, during the 2020s the Hawaiian cultural renaissance grew, along with the Hawaiian language, land-based programs, and traditional Hawaiian healing. This reinforced native Hawaiian wellbeing. There was increased production and use of traditional Hawaiian foods. Many communities were empowered to better provide the traditional care and practices of their culture, sometimes independent of the government.

Climate change and its impacts progressed, but so did Hawaii’s focused resilience and sustainability efforts. Communities were empowered in determining the best mix of practices for addressing the needs of areas threatened by sea level rise and flooding. When environmental events occurred, Hawaii was better positioned to respond and recover with greater equity.

Taxation became more progressive, including a vacancy tax and more restrictions on foreign ownership. Civil legal assistance aided those in Hawaii who need it with understanding or access to paying taxes, driver’s license or IDs, temporary restraining orders, and other needs.

Transportation across Hawaii evolved. The Honolulu rapid transit was completed. Bus systems were improved and some automated. Complete streets supported multimodal transport, including more bike and scooter use. And on all islands, fleets of autonomous electric vehicles, most part of public transit systems, increased effective mobility while reducing isolation.

In 2025, a federal Guaranteed Basic Income (GBI) was implemented, in part to address job loss to automation. In Hawaii, GBI provided $15,600 a year to each adult resident and provided $5,200 to each child (in 2025 dollars). Hawaii had been the first state to seriously study a basic income and led the way for national implementation. GBI provided a floor and raised many above the federal poverty line. For Hawaii, the greatest impact was on the 37% of the population that was above the poverty line but economically vulnerable. Hawaii, because of its higher cost of living, supplemented the federal GBI for families who remained economically vulnerable. Parallel to the GBI was greater support for and recognition of the contribution of unpaid work such as caring for children, elders or community volunteering.

Hawaii was welcoming to all residents including COFA migrants, whose numbers grew in the 2020s. All citizens received the federal GBI and in Hawaii, all residents, regardless of citizenship, received the Hawaii supplement GBI. For those who chose to pursue citizenship, the federal government implemented immigration reform which developed a pathway to citizenship.

Certain technologies, referred to as “abundance advances” allowed communities to increase equity while lowering the cost of living. Breakthroughs that lower costs allowed Hawaii to dramatically increase its solar and wind energy production and in-home and in-community battery storage. Most homes in the state, including public housing and rental units, are powered with clean energy. Hawaii encouraged domestic food production with farming, urban agriculture, community gardening and in-home food production sometimes utilizing advances such as aeroponic growing spaces. Costco’s investment in high-tech greenhouses on the islands was followed by other producers. Cultured meat and meat substitutes provided more sustainable access to protein. And residents manufactured much of their “stuff” as 3D printers that can produce household items (including electronics) are accessible across the community, including many branches of the Hawaii Public Library system. By the 2020s, 3D printing could produce home components and whole homes. Energy efficient, low cost tiny homes and accessory dwelling units became common, some having been 3D printed.

**Human services** - DHS and the human service community used the Human Service Value Curve to guide communities towards sustained well-being of children and youth, healthier families and communities, opportunities for employment and economic independence, and fairness. Integrity, coordinated service, customization of services and pursuing population-wide prevention strategies guided human services.  

Human services expanded the range of positive opportunities and experiences they promoted:

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37 ALICE is an acronym for Asset Limited, Income Constrained, Employed. In Hawaii, there are 165,013 ALICE households (37 percent), while another 47,066 households (11 percent) live below the poverty level. In total, 48%* of Hawaii households are ALICE and below. [https://www.aauw.org/alice](https://www.aauw.org/alice)

38 State of Hawaii, Department of Human Services, Strategic Plan 2018-2020, Appendices p. 7
• Advocacy for appropriate evolution of abundance advances, including supporting incentives for installing solar energy on rental units and passing own savings to renters.

• Promoting wellbeing literacy and maintaining all realms of personal well-being (socio-emotional, spiritual, physical, intellectual, social/familial, sexual, financial, cultural, identity). The health of these realms within individuals are nurtured and maintained more often and effectively thus creating propensity for harmony within a person’s wellness system.

• Empowering each person’s contribution to community, such as volunteering, caring for children and the elderly and paid work.

The “Ohana Nui” strategy disrupted patterns of poverty through addressing family needs holistically, across silos. Ohana Nui addressed social determinants of health, including housing and shelter, food and nutrition, health and wellness, education and economic support, and social capital. In doing this, human services moved beyond self-sufficiency to support this wellness and thriving.

Health care became universal and focused on wellness and prevention. Childcare and education became more equitable.

The federal GBI payment largely eliminated federal cash transfer programs, such as SNAP and TANF, though disability payments above the GBI level ($15,600 annually) were maintained, as were housing subsidies and expanded access to healthcare through Medicare for All. Predictive analytics allowed human services to anticipate needs and optimize services and partnerships. While GBI funds went directly to the individual or family, human services had greater flexibility in combining funds or coordinating services across other programs. Many human service tasks were automated, and some aspects of human services and education were “gamified” and supported by intelligent agents.

### Aging Services 3

As the older adult population grew to nearly 30% of the population in the state by 2030, so did supportive services that are more integrated, customized, and generative. Data and care were coordinated across areas of aging services- such as those addressing housing, nutrition, health care, and overall well-being.

The GBI “topped up” those 65+ whose Social Security or pension/retirement income was less than $15,600 annually (these were inflation adjusted upward each year, as were Social Security payments). And low-income housing options for seniors were expanded, including building on state-owned lands. Most communities lessened their restrictions on ADUs or other home expansion as more homes became more multigenerational. These efforts led to greater stability for low-income families and elders.

Kupuna Care expanded, and Hawaii’s culture and tradition of caring for elder family and community members was a benefit across generations. This included homes and communities integrated across multigenerations, day care centers which incorporated young children and elders in the same location, schools and community centers serving young and old. This physical shared activity space decreased social and physical isolation, encouraged meaningful relationships, and enhanced the community. In the 2020s multigenerational virtual space and activity furthered these personal and community enhancements. And for older adults, tele-visits and virtual reality connected those with mobility barriers, which helped reduced isolation, particularly on rural areas of the islands.
Universal design became standard in all new housing construction and much renovation. And housing options for seniors expanded, with more group living and co-housing arrangements; many of these living spaces include energy production. On all the islands there was a flourishing of native Hawaiian food production, often supported by seniors.

Transportation was made easier with self-driving car services, either as Uber-like services or shared ownership by senior groups. These self-driving cars (many are wheel-chair friendly) serve low income seniors. The cost was shared among state and local transit authorities, Human Services departments, Health departments, health care providers, and others. These were particularly helpful for rural areas on the islands. For major city centers, public transport systems evolved to embrace the flexibility of self-driving vehicles for their systems.

Health care evolved as it became Medicare for All, including more use of telehealth. Prevention and or better treatment options were found by the mid-2020s for diabetes, Alzheimer’s, and many cancers. And Hawaii pursued public education campaigns around dementia and Alzheimer’s to help communities be more accommodating, while also addressing wellbeing and root causes of health conditions. For example, local food production helped make healthful food options more widely available. The use of community health workers increased.

Hawaii Meals on Wheels and other food programs continued and for some more rural island communities, deliveries were made by small drone-copters. Basic income helped elders supplement their nutritional needs and drones could deliver medication and other goods. But the human check-in of meal delivery programs remained important. By the mid 2020s nutrition programs used locally produced food for most of the meals and other food they provided.

There was a greater investment in the aging services workforce and the best uses of technology, to aid older adults socially, medically and in other ways. Smart homes and virtual connectivity helped families and friends monitor those aging in place from afar. Other advances such as smart “assistants”, smart hearing aids and language translation tools were provided to low-income residents through health care and extended the time many could remain independent in their homes.

Adult protective services evolved. The guaranteed basic income reduced poverty and some of elder abuse and neglect. Aging services and protective services can use predictive analytics and integrated data (from health care, police, other human services) to anticipate potential abuse and neglect.

**Behavioral Health Services 3**

The GBI reduced poverty, supporting greater stability for individuals and families. And behavioral health services became widely available with universal health care that gave parity to physical and behavioral health. And receiving behavioral services was largely destigmatized.

Behavioral health services better recognized the role of generational trauma for specific communities and understood different cultural approaches to behavioral health. Police, teachers, child care providers and others were all trained for trauma informed behavioral care. A preventative approach was taken to address both physical and mental health.
For some, the increased support for familial care recognized as contributing positively affected mental health and wellbeing. There were also additional supports, such as respite care, which helped those in caregiver roles maintain their mental wellbeing.

The spiritual aspect of behavioral health was integrated across all deliverers of care, and practices such as mindfulness and meditation became more common. More local support groups and community-based crisis care emerged. A robust and proactive certified peer specialist program was put in place and deployed these peer specialists across the state.

The Hawaii Department of Health, Department of Homeland Security, law enforcement and others collaborated to address mental health and violence. Policies changed which allowed for a safe space for someone in crisis. This meant that someone in crisis could be restrained and taken to a stable place for de-escalation without charges being pressed. The criminal justice system reformed, while marijuana was legalized, and money that was previous allocated for jails and prisons was redirected to behavioral health services. Diversion programs, such as Law Enforcement Assisted Diversion (LEAD), expanded.

Still, behavioral health issues remained, caused by genetic conditions, accidents, trauma, abuse and neglect, neighborhood violence; and the impacts of adverse childhood experiences that had happened to kids in the 1980s and 1990s (when the current 40 and 30-year-olds were children).

In Hawaii, Medicare for All operated as an “all payer” system, in which all insurance providers provided the same rate and multiple payers were unified in the same delivery system. Hawaii was proactive about training and retaining more behavioral health providers to serve the state. More JABSOM graduates chose careers in primary care in Hawaii, and the state became a magnet for physicians from out-of-state.

Standardizing payment rates across all payers eliminated major barriers to care for Medicaid beneficiaries, markedly improving access to care for this formerly underserved population and resulting in substantial reduction in use of emergency rooms and psychiatric hospitalization. Reduced practice overhead due to simplified billing, reduction in uncompensated care, and markedly reduced micromanagement of care by health plans enabled lower prices for behavioral health providers in proportion to administrative savings, with resulting improvement in provider morale and cost-effectiveness. Pharmaceutical prices were much better controlled.

The growing power of genomics produced a large knowledge base of associations between genes and the environment, which enabled an explosion of epigenetic research showing how environments effect gene expression. Individual genetic predisposition to behavioral health issues and information on environmental exposures were incorporated into health records. With privacy and discrimination protections in place human service providers used predictive analytics to both identify people at risk and to triage their efforts.

Homes for adults with behavioral health needs evolved with special smart home technology geared to resident’s needs; these are sometimes called Freedom Homes. Health care and human service agencies supported social enterprises that develop and manage these homes.

The behavioral health workforce evolved as there were greater supports from technology tools.
Child and Family Services 3
The demand for child and family services were shaped by the reduction of poverty and economic vulnerability, the broadened pursuit of family self-sufficiency, proactive resilience in the face of environmental events, especially storms and flooding, the rise of equity and inclusion and a decline in drug and alcohol abuse.

GBI payments were consistent and led to greater family stability, a reduction in family violence and child abuse, lower teen pregnancy rates and increased high school graduation rates. Wealth literacy and wellbeing literacy programs were provided to help families use their income most effectively and understand the wrap-around services they need.

Wellbeing literacy related to all realms of personal well-being (emotional, spiritual, physical, intellectual, social/familial, sexual, financial, cultural, and identity). The health of these realms within individuals are nurtured and maintained more often and effectively, creating propensity for harmony within a person’s wellness system.

Basic income helped to financially support child and elder care, which added another element of recognition for these important tasks. Both formal and informal parenting and caregiving networks evolved in communities, building upon Hawaii’s traditional values.

There were side effects of the GBI, such as pressure to increase prices (partially combatted with rent control). For some drug users, GBI payments became a steady payment source for their drugs, however, more substance abuse treatment options and prevention efforts, most covered by health care, were in place that reduced addiction. Reducing substance abuse led to a reduction in the need for child welfare services, including foster care.

Multigenerational strategies became fully the default mode of service delivery, which empowers parents and/or grandparents in identifying needs and setting priorities (e.g. job training, housing assistance, behavioral health aimed at the parent, financial literacy, abundance advances training). Communities were better positioned and empowered to identify their needs and direct human services supports. Wellness, across socioeconomic and other strata, was prioritized.

Child abuse and neglect came into sharper focus, aided by the data sharing among schools, health care and human services, as well as predictive analytics. The number of children entering foster care dropped dramatically 2020s, particularly due to prevention services such as Family First. Data integration across local agencies, schools and health care providers informed services to best meet each child’s and family’s needs. Privacy and discrimination protections enabled this data sharing.

Basic income payments followed children to their foster care placements, and some children with disabilities or other greater needs had additional financial supports. Prior to aging out of their foster care program, most individuals had received training on wellbeing literacy and life skills to help them achieve stability. (When they turned 18, and they “aged-out” of foster care, their child GBI payment to foster parents became their own $15,600 yearly payment to them). As mentioned, basic income increased graduation rates and helped some young people pursue their entrepreneurial efforts.
After basic income, the federal childcare subsidy was discontinued except in instances where child or guardian require extra care. Hawaii expanded Pre-K. Childcare providers and Pre-K teachers were better paid for their important work. Training for these professionals was enhanced, and many were supported by technology.

Many cases of adult mistreatment were identified through primary care screenings, which enabled prompt intervention, often preventing or lessening recurring mistreatment. Studies had shown that when caught early (e.g., before verbal abuse escalates to physical attacks) the stress levels and psycho-social damage is far less.

Services for immigrants and refugees came from federal, state, local, and private programs with blended funding streams. The Hawaii supplement to GBI goes to all residents, regardless of citizenship. The mutual respect and benefit between Hawaii and COFA nations was better supported. More health practitioners and community health workers were trained to best serve COFA nation and other migrants, particularly in understanding cultures and languages (by 2025 the widely used instant language translation apps included all the languages spoken in the state).

**Disability Services 3**

During the 2020s, disability, or its impacts, were reduced. This was due to many factors, including advances in the treatment of chronic diseases, particularly diabetes, arthritis, Alzheimer’s, and some cancers. Developmental disabilities were somewhat reduced with economic stability, consistent prenatal screening and care, a reduction in drug and alcohol use and abuse, and safer living and working environments. Health disparities across Hawaii lessened with universal access to health care, a focus on equity, and the promotion of healthier lifestyles.

Overall, disability services adopted more community and family-based approaches to solutions and all services are trauma informed, trauma responsive, and healing. Greater understanding of the racial and intergenerational harm inflicted upon Hawaii related to chronic illnesses, including those resulting disabilities, informed care.

GBI payments led to the elimination of disability payments to many (particularly where the monthly GBI payment to each adult exceeded the SSI and state monthly disability payments) but some individuals with more severe disabilities continued to receive additional payments.

Integrated health and human services allowed data sharing and better partnerships for service delivery. Mental and developmental disability screening takes place with physical health care exams and increased training made diagnoses rates more accurate. Physical and mental services were customized for each person with a disability, and they were better guided through a continuum of person-centric care providers.

Hawaii increased programs to help IDD individuals have more volunteer, community contribution or paid employment opportunities. For example, Hawaii’s Special Olympics program expanded. Employees were incentivized to include more differently abled persons in their hiring, and greater partnerships were established with schools and internship programs to support this movement. Human services helped individuals identify the path they desired for contributing whether through volunteering or paid work, and then pursue this path.
Simultaneously, the workforce to provide care for IDD individuals was enhanced, including direct caregivers. Some funds saved through single payer healthcare were redirected towards hiring effective people needed in caregiving jobs.

There were remarkable medical and technological advances affecting disabilities, including: self-driving cars, 3D printing of equipment and smart prosthetics, sophisticated home monitoring and home care robots, friendly intelligent agents, translator, speech and hearing enhancer. With appropriate consent, personal intelligent agents can communicate with family members, care givers and medical personnel about the service user. Many of these are available under health care for all. The availability and effectiveness of targeted therapies and medications for rare genetic disorders increased. Also, Hawaii learned from events such as the Zika virus and was better prepared to respond quickly and with early detention.

Education became more inclusive of those with disabilities. And more supportive housing for persons with disabilities were developed. These took different forms, including congregate homes with shared living spaces. Some NORCs and villages were developed for persons with IDDs. Churches and civic organizations partnered with CBOs to best articulate what the community members needed and were often guided by Hawaii’s values of caring.

**Income Supports 3**

Hawaii led the nation in embracing equity and transforming income supports. Hawaii had first studied, then successfully piloted a Guaranteed Basic Income (GBI). When the federal GBI payments began, Hawaii provided a supplemental payment. These federal and state GBI payments provided a low but stable income to all citizens and redefined income support programs. As noted, a major impact of the GBI in Hawaii was raising many of the 37% who had been above the poverty level but were still financially vulnerable to being stable. And while the Federal GBI payments went to citizens, Hawaii provided the supplement to all residents.

Given GBI payments, federal EITC, TANF, SNAP and other programs were largely displaced. Given the high cost of housing in most parts of the country, particularly Hawaii, federal and state housing supports were maintained along with Medicare for All, emergency assistance and disability support.

GBI payments supported many moving out of poverty or economic vulnerability and contributing to their community. Human services empowered individuals to identify and pursue their pathway for contribution - whether through paid work, child or elder care, volunteering or another way.

Income support was enhanced through greater food production in the state. This included farms, and homes and communities which utilized both conventional farming practices and technology assisted growing. Food growing and nutrition were integrated into the school curriculum. Aquaponics and fish farming also expanded. In-home and in-community growing by and for families helped make low income families more secure, and the growth of in-state agriculture provided new jobs in the 2020s as others were lost.

The role of food in forming community and spiritual connection with others was broadly acknowledged. Food sharing and meal sharing increased. This was reinforced by the Hawaiian cultural renaissance and renewed focus on traditional values of living sustainably. This was facilitated by community programs and
supported by state and federal funding agencies, even as specific cash or nutrition support programs diminished.

And Hawaii pursued jobs in fields that would be most helpful and sustainable as climate change progressed. Renewable energy was a major focus for job creation. Along with job advances in some areas, access to healthful affordable or self-produced food, low cost renewable energy, 3D printing of home goods, electronics, and even small homes helped make living in Hawaii more affordable.

Housing Services 3
GBI supported moving families out of economic vulnerability. High housing costs remained an important issue. The low-income housing stock in the state was expanded, as was home ownership.

Public-private partnerships achieved different affordable and culturally appropriate housing options, ranging from high rises to tiny home communities. The state legislature fully funded the Rental Housing Revolving Fund at $200 million annually for ten years, thereby ensuring adequate housing for households at 60% of AMI and below, as well as sufficient supportive housing units.

ADUs added 10,000 low income rental units across the state. Honolulu provided grants to homeowners to build ADUs and rent them to many, including low-income, disabled, or elderly people. Many neighborhoods changed covenants or HOA rules to accommodate ADUs.

In the 2020s, Oahu added 18,000 affordable rental and owner housing units through increased public multiunit and voucher rental housing, use of city and state lands for affordable housing, ADU promotion, transit-oriented development (TOD) infrastructure investments, and new TOD zoning around the rail transit stations. This involved a mix of programs and policies, including Housing First, various incentives and financial mechanisms, low-interest loans, and negotiated land costs to make projects available. Similar efforts and models expanded across the islands, and shared housing became a statewide model.

Villages, which included some central services, grew. The Kahauiki Village on Oahu was an initial example. Developed in 2018, it provided permanent rental housing to families which had been experiencing homelessness and demonstrated that solar energy production and storage could be successful and lower costs. This tiny home village model expanded.

Homeownership by low income households increased in the 2020s. Adapting Singapore’s success at fostering home ownership, public lands were provided on 99-year leases to developers to build low income housing. Human service programs promoted financially literacy and wealth building. However, there was also cultural sensitivity that home ownership was not desired by all and there are other pathways to building wealth.

39 City and County of Honolulu, Implementing the Affordable Housing Strategy, https://www.honolulu.gov/rep/site/ohou/Housing_Strategy_Handout_2-16-17.pdf
40 https://dashboard.hawaii.gov/stat/goals/5xhf-begg/ezet-axai/88dr-z9q5
41 National Shared Housing Resource Center at https://nationalsharedhousing.org
Meanwhile, advances in construction lowered costs. Hawaii took another lesson from Singapore in using 3D printing of home components to lower cost and speed construction of high-rise units. The HPHA/HUD self-sufficiency program enabled many families already in public housing or voucher housing to save their rent payments for their home down payment.

Hawaii Medquest’s Medicaid Waiver aided in accessing supportive housing (evidence showed that being in supportive housing could lower hospital and other medical costs for certain patients with disabilities and some behavioral health conditions) and provided funding for respite housing.

Availability of land for housing came from shifts in how people live. For example, less consumerism and greater sharing culture allowed many storage unit facilities and malls to become spaces for homes. Driverless cars and car sharing freed up some parking lots for housing as well.

Community land trusts purchased state or county land and built affordable housing.

Greater limitations on foreign ownership including limiting the ability of non-residents to purchase lands and homes and creating a vacancy tax, helped slow price increases, better and more justly serving Native Hawaiians and residents of Hawaii.

Permanent supportive housing for the persons with disabilities or the chronically ill increased, which include intensive wrap-around services was paired with Medicaid waivers and other funding.

As noted, building upon the Hawaiian Cultural Renaissance, many households and communities became more generative of some of their needs and embraced living more closely with the earth through traditional and new methods. This included solar and wind energy harvesting, efficient energy storage, and low-input high-yield home and community food production. Regulations and incentives encouraged landlords to install low cost solar energy and storage and pass the savings on to renters. Sustainability skills were integrated into school curriculum from a young age.

Homelessness remained but was drastically reduced. GBI served to alleviate portions of chronic homelessness, but crisis related homelessness (due to environmental emergencies, violence, or behavioral health) was less impacted. A rapid response homeless services system was in place ensuring that homelessness was prevented whenever possible, and when it couldn’t be, it was rare, brief, and a onetime experience (USICH’s definition of an end to homelessness).

Housing services used self-sufficiency analysis for each individual case to assess housing and other needs and identify best, case-specific plans of action. Many agencies provide a continuum of services where people easily flow in, out, and across the spectrum per their needs. For example, funds were available to assist housing needs of families that didn’t require or qualify for rapid rehousing or supportive housing.

42 https://www.straitstimes.com/singapore/ntu-team-creates-worlds-first-3d-printed-bathrooms
Technology, Hawaiian Renaissance, Truth and Reconciliation

Technologies and Artificial Intelligence. In the 2020s, private and public investments were increased to develop software and technologies that enhanced workforce access to real time data and information to support individualized pro-social decision making. National governments were slow to invest as they continued the cyber warfare initiated in the 2010s against opponents' financial, health care, and energy systems. Philanthropic and state level investments significantly increased research and development into ethical AI design initially as a response to the numerous abuses of social media platforms that profited from users' information, users' uninformed participation in actions based upon fake news and deep fakes, and the inability of the federal government to take necessary actions to curb the abuses. The second impetus to invest in ethical and pro-social AI design was to assist the policy makers and residents to address and prepare for the financial crisis of 2032 as Social Security trust funds were calculated to run out of reserves. The depletion of these trust funds resulted in a severe reduction of benefits to a large percentage of the American population. Government offices and the public needed more analytic tools and ethical technology to help guide decision making.

Designing AI embedded with concepts of Aloha, as reflected in statute, song, myths, legends, and writing of positive relationships to each other, responsibility to the environment, and to the past and future, Aloha Intelligence became the basis of decision-making processes in general enterprise applications as well as in community focused social media platforms. The new philosophical foundation of technologies supports ethical practices and assists individuals and groups to accomplish tangible real-world goals. The new philosophical foundation replaced the consumer driven basis of the 2010s virtual activities that permeated first generation social media. So, while certain jobs were lost to automation in the 2020s, new opportunities for labor and community groups emerged to address the needs of the elderly, children and youth, the environment, and modifying existing infrastructure.

Hawaiian Renaissance. Hawaiian cultural traditions have been in constant struggle to survive since 1778, and efforts to preserve and promote Hawaiian cultural traditions began with the efforts of King Kalakaua with the revival of Hawaiian music, dancing and preservation of myths and legends in the 1880s. In the 1920s, Prince Jonah Kuhio Kalanianaole, Hawaii’s territorial representative to Congress, petitioned for the Hawaiian Homes Commission Act and promoted educational and cultural preservation by establishing the


47 https://dhhl.hawaii.gov/kuhio/
Hawaiian Civic Club. From the 1930s through the 1960s, numerous other efforts emerged to reestablish examples of Hawaiian village life, cultural revival of music and hula, that incorporated modern western traditions with the old.

The 1970s were significant to Hawaiian political activism and identity highlighted by the 1976 filing of a federal lawsuit by members of the Protect Kahoolawe Ohana to stop the navy's bombing activities, and the 1978 Constitutional Convention that established the Office of Hawaiian Affairs, as well as incorporated within the State's constitution the law of the Splintered Paddle. This reemergence of political and cultural identity also paved the way for the resurgence of the Hawaiian language.

The significance of the voyage of the Hokulea to Tahiti, perhaps above all events, offered Hawaii and Hawaiians a positive narrative that reframed the wonder of Hawaiian cultural knowledge and skill, and marked a unifying signal between generations and the wisdom and contributions of other ethnic and cultural traditions grounded in the relationship of people to each other and to the environment.

We acknowledge the contribution of navigator Pius Mau Pialilug, who, from an atoll in Yap, was willing to teach Nainoa Thompson how to navigate with stars and currents, and reminded the people of Hawaii as well as the rest of Oceania, of the vast knowledge and skill of island peoples. With the impact of climate change and sea level rise in the 2020s, the knowledge and skills of the people of Oceania were recognized throughout the Pacific for their wisdom and their sustainable traditional practices.

In the 2020s, the Hawaiian Renaissance was environmental. Building upon the 2018 Malama Honua Worldwide Voyage of Hokulea and Hikianalia and facing accelerating changes of the world's climate, Hawaii lead the worldwide movement to adapt and blend the traditional with new practices and technologies to repair the damaged environment, renew environmental resources, and partner with other traditions to live sustainably. As a world, we will look to cultural and scientific practices and ecosystem management to revive, clean, and nurture the land and surrounding waters of Hawaii. We look to Native Hawaiian, as well as other traditional practices and philosophies that value stewardship to the natural environment and incorporate conservation and restoration efforts that integrate the knowledge, values and cultural practices with scientific knowledge to support biodiversity.

Through the context of the environment and the restoration of our natural resources, the watering of seeds planted years ago, will serve as a corner stone toward federal and international recognition of Native Hawaiians.

Truth & Reconciliation. With the emphasis on relearning and practicing life through Aloha, in the 2020s, the Department of Human Services, through its multigenerational framework to end intergenerational

48 http://www.hcchonolulu.org/welina-mai-kakou/club-history/

49 http://www.protectkahoolaweohana.org/history.html


poverty, began the transition to become a trauma informed and trauma responsive organization,\(^{53}\) and began to address economic and social inequities that resulted in racial disparities, especially amongst the native Hawaiian population. As a trauma informed and trauma responsive organization, and with the help of improved Aloha Intelligence technology, services and supports were specifically designed with and for the individual and family.

As part of this trauma informed change, DHS along with the Office of Hawaiian Affairs and several other private entities, with guidance from the international community, began the process of Truth & Reconciliation for families in Hawaii.

The department and community partners recognized that the multiple systems that respond to trauma, can themselves be sources of additional trauma that permeate relationships on multiple levels: personal, interpersonal, institutional, and structural. The department and community partners determined that its first joint pilot program to address intergenerational poverty and structural disparities would begin with native Hawaiian and other families who were involved in the child welfare services system in the early 1990s, juvenile justice, and adult corrections; family members often traversed all three systems.\(^{54}\)

With the premise that the investigative process and historical narrative that results from a truth and reconciliation process leads to healing and improved individual and community well-being, Hawaii’s Truth & Reconciliation program set out general goals offering victims, witnesses, and perpetrators a safe setting to tell their stories. Facilitators were extensively trained, in trauma, bereavement, and forgiveness, mentored and experienced in Ho’oponopono\(^{55}\) and other cultural or spiritual healing practices, and worked alongside mental health professionals, as well as spiritual leaders of the families’ choosing.

On behalf of the past, present, and future generations, family members shared their perspectives, their histories, suffering and losses, vision of healing, and with guidance and support, where able to seek forgiveness and reconciliation. Where multiple systemic barriers or practices were identified as continuing sources of inequities, racism, or perpetuating long lasting harms, the department and community partners, along with advisors from implicated systems, began to address those systemic failures and structural practices that resulted in disparity and inequity, trauma, and loss.

Private entities and religious organizations worked with the department, community partners, and family members to find new ways to address and alleviate individuals still suffering from the trauma they experienced; support also included financial and housing supports, especially to those families raising young children to alleviate continuing poverty.

Families could choose to make their Truth & Reconciliation experience a part of the public record, or they could choose to withhold the information until a later date. For those who allowed their experiences to become part of the public record, the department worked with the University of Hawaii to evaluate and assess the positive effects of Truth & Reconciliation processes, to make further recommendations to improve system responses that would prevent similar situations in the future and to encourage earlier more responsive services at the outset of a major trauma.

\(^{53}\) [http://www.traumainformedcareproject.org/resources/SAMHSA%20TIC.pdf](http://www.traumainformedcareproject.org/resources/SAMHSA%20TIC.pdf)
\(^{54}\) [https://www.chapinhall.org/research/the-big-picture-illinois-families-and-their-use-of-multiple-service-systems/](https://www.chapinhall.org/research/the-big-picture-illinois-families-and-their-use-of-multiple-service-systems/)
Families who agreed, worked with the University of Hawaii, and provided personal accounts of the long-term healing that occurred. Evaluators collected information that would measure typical changes in overall well-being of the family, such as educational attainment, housing stability, and income generation. These findings added significant contribution to the field of Truth & Reconciliation practices and transitional justice. With the support of the University, the Department of Human Services, the Office of Hawaiian Affairs, members from participating families as well as others interested in the work as facilitators of Truth & Reconciliation, Hawaii developed the Hawaii School of Transitional Justice. The curriculum, training component, based in Native Hawaiian values as well as other learnings, materials, and facilitators were made readily available to other families and communities.

**Pathway to Reparations & Self-Determination.** In 2019, Congress reinitiated the discussion of Reparations for African-Americans who are descendants of African slaves. Senators Hirono and Booker, and 11 other Senators introduced Senate bill 1083, "to address the fundamental injustice, cruelty, brutality, and inhumanity of slavery in the United States and the 13 American colonies between 1619 and 1865 and to establish a commission to study and consider a national apology and proposal for reparations for the institution of slavery, its subsequent de jure and de facto racial and economic discrimination against African-Americans, and the impact of these forces on living African-Americans, to make recommendations to the Congress on appropriate remedies, and for other purposes."56

The issue of due process of law and just compensation for Hawaiians and Hawaii has long been an issue. On December 19, 1898, Queen Liliuokalani protested to the U.S. House of Representatives, the assertion of ownership by the United States of the "so-called Hawaiian Crown Lands as a taking of property without due process of law and without just or other compensation."57

Numerous attempts at dialogue, strategies, and negotiation for recognition, self-determination or sovereignty have been pursued.58 In 1993, the U.S. formally apologized for the 1893 overthrow of the Hawaiian government with the enactment of Public Law 103. The law states, "[t]o acknowledge the 100th anniversary of the January 17, 1893 overthrow of the Kingdom of Hawaii, and to offer an apology to Native Hawaiians on behalf of the United States for the overthrow of the Kingdom of Hawaii."

Also, in 1993, the United Church of Christ (UCC) apologized for its complicity in the overthrow and began a redress and reconciliation process. On behalf of the UCC, its President, Reverend Dr. Paul H. Sherry, came to Hawaii and made a public apology. He stated:

56 [https://www.congress.gov/bill/116th-congress/senate-bill/1083/text?q=%7B%22search%22%3A%22%7D&c=1&t=1&s=1](https://www.congress.gov/bill/116th-congress/senate-bill/1083/text?q=%7B%22search%22%3A%22%7D&c=1&t=1&s=1)

57 [https://history.house.gov/HouseRecord/Detail/15032436226](https://history.house.gov/HouseRecord/Detail/15032436226)

“We are gathered in this place at the request of the 18th General Synod of the United Church of Christ, to recall with sorrow the unprovoked invasion of the Hawaiian nation on January 17, 1893, by forces of the United States. We are gathered here so that, as President of the United Church of Christ, I can apologize for the support given that act by ancestors of ours in the church now known as the United Church of Christ. We do so in order to begin a process of repentance, redress and reconciliation for wrongs done. We are here not to condemn, but to acknowledge. We are here to commit ourselves to work alongside our na Kanaka Maoli sisters and brothers—both those in the United Church of Christ and those beyond—in the hope that a society of justice and mercy for them and for all people, everywhere, may yet emerge.”

As a current example of existing reconciliation activities and reparations, after the public apology by the UCC, a three-part redress and reconciliation plan was developed whereby: (1) monies would be given to Native Hawaiian Churches in existence at the time of the 1893 overthrow; (2) monies would be given to the newly developed Association of Hawaiian Evangelical Churches created to represent Hawaiian Churches within the governing structure of the Hawaii UCC organization; and (3) land and monies would be given to an independent entity created outside the UCC to promote reconciliation efforts. In 1996, the Pu‘a Foundation, a 501(c)(3) tax-exempt non-profit organization, was established to fulfil the role of the independent entity.\(^{59}\)

The vision of the foundation is “through pu‘a, the process of feeding, nourishing, and strengthening, there will be the emergence of enlightened communities and society.” The Foundation’s mission is “to actively engage, facilitate and serve communities and their efforts to build a resilient society and improve upon their quality of life through healing and reconciliation efforts that address consequences of the 1893 overthrow.” Its overarching goal is to promote healing and reconciliation on an individual and collective basis within the Native Hawaiian community and beyond.

While the US Congress and the UCC church have both acknowledged their roles in the 1893 overthrow, argument can be made that the State of Hawaii has been on a consistent path to obstruct the appropriate and equitable implementation of laws established for the betterment of native Hawaiians.

For example, within Hawaii State Government, the purpose of the Hawaiian Homes Commission Act of 1920 states, "the Congress of the United States and the State of Hawaii declare that the policy of this Act is to enable native Hawaiians to return to their lands in order to fully support self-sufficiency for native Hawaiians and the self-determination of native Hawaiians in the administration of this Act, and the preservation of the values, traditions, and culture of native Hawaiians." Section 101, Hawaii Revised Statutes.\(^{60}\) Despite its clear purpose and nearly 100 years in existence, there has been abundant litigation related to the implementation of the Act.\(^{61}\) In the most recent case, Nelson, III, et al., v. Hawaiian Homes Commission, et al., Civil No. 07-1-01663-08, the State Circuit Court ordered, amongst other things, "[t]he State of Hawaiʻi has failed to provide sufficient funds to the Department of Hawaiian Home Lands for its administrative and operating budget in violation of the State’s constitutional duty to do so under article XII,

\(^{59}\)http://www.puafoundation.org/

\(^{60}\)https://www.capitol.hawaii.gov/hrscurrent/Vol01_Ch0001-0042F/06-HHCA/HHCA_0101.htm

\(^{61}\)See Case Notes: https://www.capitol.hawaii.gov/hrscurrent/Vol01_Ch0001-0042F/06-HHCA/HHCA.htm
section 1 of the Hawai‘i Constitution." In a 2018 decision, the Hawaii State Supreme Court, for the 2nd time, remanded the case back to the Circuit Court to determine the current value of $1.3 to 1.6 million (in 1978 dollars) adjusted for inflation.63

In 1978, the Office of Hawaiian Affairs, was established in the Hawaii State Constitution. Article XII, Section 5, provides that, "[t]he Office of Hawaiian Affairs shall hold title to all the real and personal property now or hereafter set aside or conveyed to it which shall be held in trust for native Hawaiians and Hawaiians." While Section 4 of the Constitution declares lands granted to the State by the Admissions Act shall be held by the State as a public trust for native Hawaiians and the general public, the Office of Hawaiian Affairs has had to consistently track, monitor, advocate, and litigate with the State for appropriate proceeds as provided by the State constitution. In 2009, the U.S. Supreme Court ruled in Hawaii et al., v. Office of Hawaiian Affairs, et al., 556 US 163 (2009), that on the one hand the U.S. Supreme Court had jurisdiction to rule on the case because the 1993 Apology Resolution was federal law, it held that the same federal law did not strip the State of Hawaii of its sovereign authority to sell the lands granted to the State upon its admission to the Union. The outcome of the U.S. Supreme Court's decision is the State of Hawaii may sell the ceded land or "so-called Hawaiian crown lands" as the Queen referred, whether or not there exist pending claims of native Hawaiians. The practical result is that the Office of Hawaiian Affairs, which receives a bulk of its finances from the proceeds and revenue generated from lands held in trust, is constantly required to monitor, trace, and investigate lands sales by the State. By selling off the “so-called Hawaiian crown lands” or the corpus of the trust, revenues designated to the Office of Hawaiian Affairs will be reduced over time.

Reviewing the status of Native Hawaiians in the 2010s, as measured by educational attainment, median income, source of health insurance coverage, and overall health, one may easily conclude that Statehood has not resulted in the betterment of native Hawaiians as a people. Some may even describe the situation as a tactic of oppression through law, and many examples exist to support this belief and distrust held by many indigenous people in the U.S.64 The obstructionist way the State of Hawaii carries out its trust responsibilities toward native Hawaiians for the betterment of native Hawaiians is a prime example of why in the 2010s any attempt at negotiating with the State of Hawaii or the U.S. Government for reparations and self-determination would have been futile.

Fortunately, with the election of 2020 and subsequent elections, the membership of Congress and State legislatures gradually became more racially, gender, socially, and age diverse. Many of those elected to State and Federal offices in the late 2020s were youth during the Me Too, Black Lives Matter, Parkland School shootings, Dakota Access Pipeline, Southern Border migration, TMT, and other events and movements of the 2010s. The diverse coalition coalesced into the driving force behind necessary reforms.

The multiple crises of the all-time record debt levels of 2020s, as the result of years of deficit spending and intensified with the Trump 2018 Tax Reform, rapid increases in health and retirement spending, the decline

of U.S. standing in the world considered to be unreliable, incomprehensible, and destructive, more devastation from severe climate events that did not discriminate by race or class, hit the tipping point that lead to State legislatures and Congressional bipartisan consensus that "big structural changes\(^{65}\) versus "moderate incremental changes\(^{66}\) were necessary.

These changes included the acceptance and conclusion that the consumer driven economy, that placed profits above all else and in the hands of a few, was a threat to necessary natural resources required to sustain human life and social stability. Sweeping changes, which started at the State legislatures in the late 2010s, included:

- Corporations (no matter where incorporated) whose profits resulted in environmental damages (no matter where the damage occurred) were given the options of environmental and social community investments or face retrospective penalties and global asset forfeiture;
- Legislatures passed laws and invested in research and development of people and community first AI systems and technologies to address the continuous and widespread cyber warfare to government, private, corporate data, energy, transportation systems, and social media platforms that instigated social unrest, violence, and disruption; regulation also included technology and screen time use regulations for different ages similar to the way driving, cigarette, and alcohol use are currently prohibited by age;
- Taxes were significantly increased, so that universal basic income\(^{67}\) became available for all children, and all elders, such that poverty of children and elders was reduced, and free quality higher education became available to all;
- The estate tax system was also restructured that allowed heirs to retain a certain percentage of the inherited estate during their life time (for example, up to $100,000,000 per estate could be retained), and any amount more than the retainable percentage would be distributed amongst six social needs: housing, education, health care, human care (child/disabled/elder), environment, and technology/innovation. Individuals were encouraged to make charitable distributions during their life time to avoid mandatory forfeiture of the remaining amount after the heirs' allowable amount was distributed;
- Corporate taxes were also restructured to allow corporations to accrue certain amount of assets if certain percentage of income went to support wellness and pro-social programs of their employees, their dependents, and retirees. For corporations that profited from use of AI, a portion of these profits were also required to be reinvested in well-being and pro-social programs for employees, their dependents, and retirees.
- Defense spending was also reduced and restructured to require a significant percentage of defense spending to include positive civilian uses (i.e., not prisons or holding cells) or multiple beneficial uses, such as environmental remediation activities.

In Hawaii, there were several other influences that were impactful and accompanied these profound governmental changes. Because Hawaii is a Pacific island state, in the late 2010s, a great number of Hawaii residents took a keen interest in the efforts to address the Great Pacific Garbage Patch.\(^{68}\)

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\(^{66}\) Id., position attributed to candidate Joe Biden.


\(^{68}\) https://theoceancleanup.com/great-pacific-garbage-patch/
residents dramatically reduced use of single use plastics and other materials, and for many Millennials and middle income residents in Hawaii in the 2010s and 2020s, the "Sharing Economy" was the most feasible way to afford to live in Hawaii, by renting or sharing everything from furniture, cars, tools, clothes, and living and work spaces.

Also supporting the movement away from purchasing, accumulating, and the ownership of things in general, and perhaps due to many residents of Hawaii sharing Japanese ancestry or practices, many residents across ethnic groups embraced the minimalist attitude and gratitude popularized by Japanese organizer Marie Kondo in relationship to things, as well as notions of Ken Honda, the Japanese "Zen Millionaire," who promoted the idea of appreciating money and transforming one's relationship with money.69 In Hawaii, environmental benefits of a reduction and recycling of plastic and other materials, and the changed attitude toward money and investment and sharing in the overall improvement of well-being resulted in tangible measures of improvement of over-all community well-being, in terms of a reduction of reported incidences of chronic stress, related anxiety disorders, depression, and suicide.70

As part of the "Sharing Economy" and tax reforms, the whole structure of work was reorganized to allow more job sharing across sectors such that the working aged able-bodied adult population, like generations before, could continue to experience full employment opportunities such that full employment continued at high levels, while everyone received annual paid vacation or paid leave. The amount of vacation pay or paid leave was uniform so everyone received the same amount of vacation or leave time and the same amount of pay. Vacation or leave time, as well as maternity-paternity leave was mandatory for all. Having a percentage of the population on vacation or on paid leave helped to keep full-employment at high levels, so that the population at large remained productive and contributing to the economic well-being, as well as remaining socially connected.71

By the late 2020s and early 2030s, these fundamental reforms that redressed economic inequalities, the experiences of families involved with the Truth & Reconciliation processes fostered respect, cooperation, and trust in government services. The restructuring of the economy, employment system, and tax reform significantly reduced poverty and improved overall community well-being. When a larger percentage of people were more secure in their environment and their family needs were met, only then were communities willing and able to address and reconcile historical injustices.

By the late 2020s into the 2030s, the U.S. and State governments, working with impacted communities, initiated general social program reforms and services for descendants of American Slaves, Native Americans, Native Hawaiians, Native Alaskans, residents from Compact nations, and other impacted groups. In the early 2030s, the Hawaii State legislature properly funded the Department of Hawaiian Home Lands, and the Office of Hawaiian Affairs. By properly funding these organizations, more appropriate housing and culturally based programs were developed and implemented to address the well-being of

native Hawaiians as developed by native Hawaiians. The Truth & Reconciliation movement in Hawaii became an important step and bright light towards the broader discussion of reparations to the people of Hawaii because of the unlawful overthrow of the Hawaiian Kingdom by the United States in 1893. By 2035, conditions of individuals, and communities are such that discussions can begin to address reparations and a pathway to self-determination for Native Hawaiians.
Scenario 4: Shared Abundance

Scenario 4 Overview
Nationally, growing inequities and challenges during the late 2010s led the groundswell for a major shift toward more empathy, equity, inclusion and sustainability. These values integrated to transform several federal policies areas, including taxation, education, public safety and justice, the environment (including combating climate change), immigration, health care, human services and a national minimum wage.

The minimum wage grew to be a living wage in the 2020s, even as much labor was shifting from jobs to piece work or consulting on the “gig economy”; and many jobs were lost to automation.

Hawaii had a leader in aspects of the value transformation, along with many of the policy shifts. Within Hawaii, there was more mainstream recognition of the trauma which had been inflicted upon Native Hawaiians, which then informed policies, including more equitable housing and land purchasing rights for Hawaiians upon their historic lands.

Hawaii made efforts to resist automation and the outsourcing of jobs. When tasks were automated, this was a tool to assist human workers in making their time most impactful. The state lost jobs to automation but fewer than other areas of the United States. For some, this meant working reduced hours at higher wages (the living wage level in the 2020s). And income supports payments were increased and some were no longer temporary. This allowed more time for other meaningful contributions such as caring for children, elders, and food production. Tele-work increased, which helped alleviate some traffic congestion in the urban cores of Hawaii. Virtual connectivity increased, including Hawaii allowing virtual child and family visits for human services, incarcerated persons or those deployed.

Technology became an increasingly helpful and conscientious tool for human service delivery, education, childcare, self-sufficiency and other efforts. Human services became more entrepreneurial, including partnerships with tech developers to inform the design and implementation of apps and other tech tools.

Hawaii human services used innovative approaches, such as employing apps with social media and game-like qualities to reinforce social connectivity and caring. For example, apps could connect a younger individual with an appropriate older adult in the community and reward check-ins with points. Across human service providers, health care, education and law enforcement, laws and policies changed to allow better data sharing. Hawaii providers were intentional to “humanize” the data through including additional information on each individual.

Embracing technology did not come at the expense of losing human connection. Rather, networks of caring and connectivity ran deep across Hawaii and communities informed human services through a ground-up, rather than top down, approach. DHS and the human service community used the Human Service Value Curve as a strategy towards sustained well-being of children and youth, healthier families and communities, opportunities for employment and economic independence, and fairness between all the places we live.

Multigenerational strategies such as “Ohana Nui” worked to break generational patterns of poverty by concurrently addressing all of the basic health and human services needs of the entire family holistically, across silos. Ohana Nui addressed social determinants of health such as: housing and shelter, food and
nutrition, health and wellness, education and economic support, and social capital. Ohana Nui was an extension of Hawaii’s values. This was advanced along with the broader understanding and recognition of the intergenerational trauma inflicted, and all providers- from teachers, police officers, human service workers- were trained in trauma informed care.

Hawaii’s values of caring and resiliency also transformed food production and agriculture. Laws and regulations evolved to allow greater food production in back or front yards and public-private lands, including by and for residents of public housing units. Food distribution was aided by the sharing economy, which helped Hawaii maintain networks of resiliency during instances of environmental shocks and disasters. Conventional agriculture and community gardening techniques were supplemented with new technologies such as aeroponic and hydroponic growing. Low cost solar and other renewable energy as well as in-home and in-community energy storage was widely installed in Hawaii by the late 2020s. Children were taught self-sufficiency and environmental sustainability – along with the culture and true history of Hawaii-as part of school curriculum from a young age.

Some agricultural land was also reclaimed and used for medicinal growing purposes. The historic knowledge and practices of Hawaiians and other cultures were embraced, protected and valued for their medical contributions. With these expanding medical efforts, Hawaii was intentional to structure and support the practices in a way that empowers and doesn’t appropriate or take unfairly.

Overall, human services became more integrated, automated, efficient and effective. Programs were integrated across Federal, State and City/County levels, with accelerated eligibility determination and enrollment. The data integration across agencies and sites (e.g. human services, school, medical care, law enforcement) enabled predictive analytics to prescribe customized and preventive care. Each client has a case manager/mentor who ensures they get the most appropriate services and supports, based on needs identified by the client.

Aging Services 4
Hawaiian’s led the ground movements and policy changes to better recognize and support Native Hawaiian values and rights. These, in turn, helped to support the increasing number of older adults across the islands.

Aging services integrated data across various aging and other human services- such as those addressing housing, nutrition, health care, and overall well-being. Senior centers and services embraced technology as a helpful tool to aid and support human connections. As computer games and virtual reality evolved, human service providers fostered senior gaming and networking. Virtual reality and tele visits helped family and service providers check-in on elders from afar.

Senior group living and co-housing and ADUs increased, and some had “smart homes” features. Technology tools including the successors to smart phones offered many helpful features to older adults, which was particularly helpful in more isolated areas.

The Hawaii Saves Legislation established a state-run retirement savings program for private sector employees and started a Hawaii Retirement Savings Program Administrative Fund. This legislation was an
example of the planning which Hawaiian government and families took to help prepare for all aspects of aging – including death. There was greater planning and understanding of options for end of life.

Family and community networks supported and included kupuna for shared well-being. Beyond sharing or trading services, the culture of giving and contributing grew which for many decreased social and physical isolation, encouraged meaningful relationships, and enhanced the community.

Legislation required universal design be applied in new developments and much remodeling. This helped private and public buildings across Hawaii be more accommodating. Transportation to and from senior activities was made easier as self-driving car services became common, either as Uber-like services or shared ownership by organizations or public transit.

Health care evolved, Medicaid raised its rates, broadened eligibility, and became a purchasable option. Medicaid and Medicare made many technological and medical breakthroughs accessible. Hawaiian and other traditional medicine practices were also more widespread, and often the elder community members or kupuna were the educators and knowledge-sharers. This helped improve social and physical health across generations, and facilitators of these practices worked to empower rather than the appropriate those traditions.

Meal programs became more customer focused, including optimizing the person’s meals for their nutritional needs (informed, where the senior agreed to the data sharing, by the person’s health care data). Hawaii Meals on Wheels and other programs primarily used locally produced food, particularly as more island communities became more agriculturally self-sufficient. In some communities, meal deliveries were made by small drone-copters, but in-person check-ins remained.

Employment services for the elderly focused on training, often virtual, for jobs not likely to be automated. Within human services, the aging services workforce recruited younger employees and passed on their knowledge and expertise. And immigration reform helped the workforce for direct caregivers remain stable.

Behavioral Health 4

Behavioral health issues and care evolved, as did life in Hawaii through advances such as universal health care and societal shifts. The Hawaiian cultural renaissance, growth of the Hawaiian language, land-based programs, and traditional Hawaiian healing reinforced native Hawaiian wellbeing. Other behavioral health prevention and diversion efforts increased as did community care. But behavioral health issues did remain, caused by genetic conditions, accidents, generational trauma, abuse and neglect, violence and substance abuse.

Trauma informed and trauma healing care training was provided across the behavioral health workforce and to teachers and police officers. And there was a greater understanding of generational trauma and cultural sensitivity around behavioral health needs and delivery.

Some land had been reallocated to Native Hawaiians, and some of this land was used for medicinal growing purposes. Across the many cultures in Hawaii, knowledge of the healing powers of nature and herbal healing was better honored, empowered and put into practice. Supporters and beneficiaries from
these traditional practices were intentional that these practices weren’t mainstreamed in a manner that retraumatized; rather, the culture and those who shared knowledge were lifted up.

Across behavioral health service providers, the spiritual aspect of behavioral wellbeing was embraced. More local support groups emerged for behavioral health, sometimes facilitated by human service or health care providers.

It became more common to seek behavioral care - and to receive it. Physical and mental health were given parity under universal health care. Standardizing payment rates across payers eliminated major barriers to care for Medicaid beneficiaries, markedly improving access to care for this formerly underserved population and resulting in substantial reduction in use of emergency rooms and psychiatric hospitalization. Reduced practice overhead due to simplified billing, reduction in uncompensated care, and markedly reduced micromanagement of care by health plans, enabled better pay for provider services in proportion to administrative costs. This resulted in improved provider morale and cost-effectiveness. Pharmaceutical prices were much better controlled. There were more psychiatrists and behavioral therapists to meet the needs of Hawaiians. Ultimately, health care costs declined.

More JABSOM graduates chose careers in primary care in Hawaii, and the state became a magnet for physicians from out-of-state. By the early 2020s, Hawaii’s physician shortage problem had been resolved. Meanwhile, technology significantly accelerated behavioral care; effective and inexpensive software developed and used by leading health care provider systems proved to be very successful in supporting the work of human counselors.

Partnerships emerged to address mental health and violence; for example, the Hawaii Department of Health, Department of Homeland Security, law enforcement and others collaborated to better address needs across communities. Policies changed to allow for a different method of de-escalation for an individual in crises; someone in need could be appropriately restrained and taken to a stable place for de-escalation without charges being pressed. The criminal justice system was reformed, while marijuana was legalized, and money that was previous allocated for jails and prisons was redirected to behavioral health services. Diversion programs expanded.

Homes for adults with behavioral health issues evolved with special smart home technology geared to resident’s needs, and often residents engaged in food production. Some call these Freedom Homes. The social enterprises which develop these homes are supported by health and human service providers.

**Child and Family Services 4**

Child and family services evolved with greater emphasis on prevention measures, which proved effective in improving health and prosperity for families and communities.

While the economy was evolving, family services provided employment training that was optimally matched to the client’s skills, knowledge and capacities and oriented towards new jobs created and those not likely to be automated. Employment training was enhanced with virtual reality training, using affective computing to engage the client. Families also helped support themselves through in-home or community food and energy production and engaging with the sharing economy.
Communities are better positioned to determine what services they require and desire, and then work with human service providers on achieving shared goals. Child and family providers increased their cultural awareness, and Hawaiian values were honored rather than appropriated. The understanding of generational trauma increased, and trauma informed and trauma healing care training was provided for teachers, police, health care and human service providers. Efforts to move towards more equitable communities brought decreases in health and wealth disparities.

Instances of child abuse and neglect were reduced across income levels, using generative approaches that fostered healthier environments across communities. Adult protective services in 2020s focused on plans that enhance the threatened adult’s choices with their services. Often, adult mistreatment was identified through primary care screenings and handled with prompt intervention.

Protective services used social networking tools, artificial intelligence and technology to best support their work. This allowed resources—both human and financial—to be delivered in a tailored, case specific manner. Predictive tools from artificial intelligence programs allowed human service workers to be more effective in case management, intervention and allowed them more time in the field.

Data was integrated from human services, schools, health care, and public safety, with privacy and security protections. This enabled predictive analytics and personal, customized plans, specific to children and family members. Each case has a manager, well supported by technology.

Prevention strategies dramatically reduced the number of children who needed out-of-home placements and foster care. There were more resources helping children stay in-home or with family members in healthy environments, including supporting traditional Hawaiian networks and values of community care and parenting.

In the 2020s, there was greater funding which made Head Start and Pre-K widely available across Hawaii. Childcare providers and educators were better paid, which attracted more to the field. Training for these professionals included best utilization of learning technology, which proved highly effective for children in conjunction with human connection.

**Disability Services 4**

Communities were empowered to learn from, and provide care for persons with disabilities, through ground-up networks of care. Overall, disability or its impacts were reduced for residents of Hawaii, across income levels. This was attributed to factors such as reductions in drug and alcohol abuse, consistent pre-natal care, reduced poverty, reduction or slowing of chronic disease, particularly diabetes and Alzheimer’s.

Much community care is supported by services, either native Hawaiian in nature or not, and there is greater emphasis and respect for the spiritual aspect of care. Native Hawaiian systems of care and support, and community resources, are empowered and not in conflict with westernized services. People are given options and empowered to choose the style of care they’d like, with cultural respect and safety processes in place.

Health care and human services integrated, and disability screening is provided during physical health care exams as well as school testing. Having disabilities became less stigmatized. Health care became more
community based, this led to an increase in the number of people who sought and received care across the islands. Physical and mental services were customized for each individual and care was provided through various providers, including public agencies and non-profits.

Predictive and preventive measures worked in combination with remarkable medical and technological advances affecting disabilities. This included:

- Self-driving cars enhanced mobility;
- 3D printing of home equipment and even smart prosthetics;
- Sophisticated home monitoring and home care robots;
- Friendly intelligent agents that act as helper, guide, counselor, therapist, translator, speech and hearing enhancer;
- By the mid-2020s direct brain control of limbs for paraplegics, slowing or prevention of diabetes and Alzheimer’s and vision and hearing restoration was available for many.

As these medical advances were proven effective and safe, and their initial costs dropped, they were covered by Medicaid and Medicare.

Even with technology advances, human connection was the key component of services. Technology aided this connectivity as virtual reality and other tools allowed people to better express and represent themselves, on their own terms.

Education embraced inclusion for students with disabilities. Screening for autism and other conditions became more common, and schools coordinated with other providers of disability services. A commitment to greater inclusiveness by schools, aided by technology, led most of these students to be taught in regular, inclusive classrooms.

Supportive housing options for persons with disabilities expanded, and there was greater choice for individuals to choose living environments that suit their needs and inspire their well-being. Many of these homes were supported by technological advances and many residents of group homes engage in volunteering, including growing food, to enhance their sense of contribution and meaning.

Income Supports 4

Income support programs evolved to be more flexible and better coordinated. For many programs, work requirements were reduced or broadened to include education or training as well as volunteer efforts. Given growing structural unemployment, income supports were recognized as no longer temporary. Other policies included raising the minimum wage to a living wage, efforts to slow or resist job loss to automation, and certain pay protections and benefit programs for “gig workers.”

EITC was amended to apply proportionately to single individuals and childless couples, as it had applied to those with children and EITC income ceilings were raised, influenced by the increase to living wages. Greater supports and employment training allowed more residents of Hawaii to earn higher wages in jobs less likely to be automated. Still, many employed residents remained below the EITC level and received the tax credit from the U.S. and Hawaii.
Public housing and housing choice vouchers increased in the 2020s as HUD regulations changed. Across Hawaii, the development of affordable housing increased through a variety of incentives, regulation and zoning changes. Affordable housing took on different forms, including high rises, more traditional village communities, other tiny home developments and Accessory Dwelling Units.

Funding for SNAP and other nutrition programs increased, along with greater incentives for buying fruits and vegetables, particularly from local sources. Food insecurity was reduced through some community and in-home food growing, but also through changes with sustainable land management. More small farm operators across Hawaii earned living wages, were able to live on their land and revive the sustainable agricultural history of the land. Across island communities, there is a more collaborative food system of supporting local food producers and sharing food.

TANF and TAONF payment levels expanded, as did the length of time they could be received. “Temporary” was removed from the programs name as it became Aid to Families (AF).

Job training focused on new jobs or those not likely to be automated. This included jobs in renewable energy. Other training also included how to increase family self-sufficiency by making effective use of abundance advances and cultural practices of self-sufficiency.

The regulations for income support programs, both federal and state, were adjusted to allow integration of support payments for an individual or family – this allowed both an aggregation of the funds and broader choice by families on how the funds were spent.

**Housing Services 4**

Hawaii was successful in expanding the low-income housing stock, expanding home ownership, and reducing houselessness.

Efforts to increase affordable housing took on many forms and were supported by various funding streams. This included the fully funded Rental Housing Revolving Fund, which offered $200 million annually for ten years, and supported sufficient housing for households at 60% of the AMI and below, as well as sufficient supportive housing units.

Affordable housing included ADUs, which added 10,000 low income rental units across the state. Honolulu provided grants to homeowners to build ADUs. Many neighborhoods changed their regulations to better integrate ADUs. Housing co-operatives and home sharing increased state-wide.

Across the islands, affordable housing increased through federal, state and city/county funded vouchers and units, use of land trusts, and use of city/county and state lands for affordable housing, transit-oriented development (TOD) infrastructure investments to support affordable housing, and in Honolulu new TOD zoning around rail transit stations. Various housing programs and policies were used, including financial mechanisms such as federal tax credits, low-interest loans and a Housing First approach. Housing options took many forms, ranging from multiunit high rises developed by public-private partnerships to 3D printed.

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72 City and County of Honolulu, *Implementing the Affordable Housing Strategy*, https://www.honolulu.gov/rep/site/ohou/Housing_Strategy_Handout_2-16-17.pdf
tiny homes. Many community developments included solar energy powered grids, internet access and access to health care, child care and other services.

For some, homeownership was accelerated. Adapting Singapore’s success at fostering home ownership, public lands were used to provide 99-year leases to developers, who in turn built multiunit housing that families could buy. Financial literacy, along with well-being literacy, programs supported home ownership. The HPHA/HUD Family Self-sufficiency Program provided many families with funds for their down payment. And housing services providers were culturally informed and understood that home ownership was not the goal for all.

Initially there were some objections to mixed income housing or encampments in better off neighborhoods, but the rise of equity and inclusion as integrated values across all neighborhoods led to more embracing new housing options and welcoming new neighbors.

Hawaii pursued more permanent supportive housing for the chronically ill or persons with disabilities, in both detached units and apartment-style housing.

Housing services worked with each individual and family to identify best, case-specific plans of action. There was a continuum of care and services which was flexible and adaptable for clients, depending on their needs. For example, some clients needed a monetary stipend, some needed a stipend and services, and some needed a stipend and intensive services. Housing services were person-centric, well integrated and informed by predictive modeling.

Homelessness remained but was drastically reduced. Crisis related homelessness (due to environmental emergencies, violence, or behavioral health) was more often that which persisted through the 2020s. A rapid response homeless services system was in place ensuring that homelessness was prevented whenever possible. When unavoidable, homelessness was an isolated and abbreviated experience.
Appendix: More Detail on Key Drivers

The themes, or “key drivers,” identified in the report and expanded below are:

A. Job Loss to Automation
B. Abundance Advances
C. Universal or Guaranteed Basic Income
D. Affordable Housing Options
E. Equity Rising
F. Human Services Value Curve

A. Job loss to automation
Job loss to automation and cognitive computing will have a major impact on the economy, family income, and the need for human services in the years ahead. We believe this has been happening and it will eliminate more jobs through the 2020s. As with past disruptions of this type, new jobs will be created. Some of these new jobs are identified in the sources below. And there will be teaming of AI and human workers. Yet overall, the number of new jobs created is likely to be far fewer than the jobs lost.

For these Hawaii Human Services 2035 report, we have used the Forrester estimate of a net loss, by 2025, of 7% of U.S. jobs (see first bullet below). And we assume that net job loss will accelerate in the later 2020s and 2030s. We have worked with human service experts to apply and check forecasts for specific human service jobs as well. Below are highlights of the forecasts that indicate the range from which we developed the forecasts we are using in our scenarios.

• Net Loss of 7% by 2025 - Forrester forecasts in the report “The Future of White-Collar Work: Sharing Your Cubicle With Robots” that cognitive technologies such as robots, artificial intelligence (AI), machine learning, and automation will replace 22.7 million (or 16%) of U.S. jobs, while 13.6 million will be created — a net loss of 7% of U.S. jobs by 2025. Office and administrative support staff will be the most rapidly disrupted. Newly created jobs will include robot monitoring professionals, data scientists, automation specialists, and content curators.”

• 47% of US employment at risk by 2030 - One of the most cited studies is from Oxford University researchers Frey and Osborne. They project about 47% of total U.S. employment is at risk for automation by 2030. Frey, C., & Osborne, M. (2017). The future of employment: How susceptible are jobs to computerization?. Technological Forecasting and Social Change, 114, 254-280. Available at http://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf.

• 6% of jobs by 2021 - Within five years (of 2016), robots and intelligent agents will eliminate many positions in customer service, trucking and taxi services, amounting to 6 percent of jobs, according to a Forrester report. “By 2021, a disruptive tidal wave will begin,” said Brian Hopkins, VP at Forrester Research. “Solutions powered by AI/cognitive technology will displace jobs, with the biggest impact felt in transportation, logistics, customer service, and consumer services.” Taylor, H. (2016, September). AI will eliminate 6 percent of jobs in five years, says report. Retrieved from http://www.cnbc.com/2016/09/12/ai-will-eliminate-six-percent-of-jobs-in-five-years-says-report.html
• 5% of total jobs but 49% of tasks could be automated - McKinsey Global focuses on probability of tasks within occupations being automated and determined that 49% of time spent on tasks could be automated with current technologies, but only 5% of total jobs could be automated away in the report by McKinsey Global (2017). A Future that Works: Automation, Employment, and Productivity; Harnessing Automation for a future that works. Retrieved from http://www.mckinsey.com/global-themes/digitaldisruption/Harnessing-automation-for-a-future-that-works

• 9% of U.S. jobs at high risk-OECD - A 2016 OECD policy brief forecasts that an average of 9% of U.S. jobs (13 million) are at high risk for automation; these are jobs for which 70% of the tasks could be automated. The OECD authors note that: “This figure stands in contrast to FO (Frey and Osbourne), who argue that 47% of US jobs are at high risk of being automated. Apparently, not taking account of the variation of tasks within occupations exerts a huge impact on the estimated automatability of jobs. This is because even in occupations that FO expect to be at a high risk of automation, people often perform tasks which are hard to automate, such as for example interactive tasks (e.g. group work or face-to-face interactions with customers, clients, etc.). https://www.oecd-ilibrary.org/docserver/5jlz9h56dvq7-en.pdf?expires=1561945376&id=id&accname=guest&checksum=65BFA5EE160D9DE7A1A3DD7B14C4F2BE

-14% at high risk but 32% at medium risk – OECD – An OECD report pointed out that nearly 50% of jobs included in the study are expected to be “significantly affected by automation,” but the risk is variable. 14% of jobs are at high risk of automation; 32% are at medium risk; OECD (2016). Policy Brief on the Future of Work: Automation and Independent Work in a Digital Economy. https://www.oecd.org/employment/Policy%20brief%20-%20Automation%20and%20Independent%20Work%20in%20a%20Digital%20Economy.pdf

- 38% of US job at high risk of automation but variation by sector – PWC • A study by the UK office of PWC analyzed the workforce in several countries. In terms of specific sectors, it found different degrees of risk for automation. The following economic sectors have varying probabilities of automation, represented as a percentage: transportation and storage (56%), manufacturing (46%) and wholesale and retail (44%), but lower in sectors like health and social work (17%). Overall, the U.S. jobs at high risk of automation by the early 2030s was 38%. PriceWaterhouseCooper. (2017). Will robots steal our jobs? The potential impact of automation on the UK and other major economies. PWC UK Economic Outlook. Retrieved from https://www.pwc.co.uk/economic-services/ukeo/pwcukeo-section-4-automation-march-2017-v2.pdf.


-40 to 50% at risk but new jobs could mean net loss of 10 to 25%- Kai-Fu Lee – “Putting together percentages for the two types of automatability—38% from one-to-one replacements and about 10% from ground-up disruption—we are faced with a monumental challenge. Within ten to twenty years, I estimate we will be technically capable of automating 40% to 50% of jobs in the United States. This —and I cannot stress this
New Jobs Created

There are various authors identifying new jobs, some making estimates.


• The number and types of jobs projected span a wide range. Forrester forecasts that by 2027, there will 14.9 million jobs created (although there will be a loss of 24.7 million jobs in the same period). New jobs will be created in software, engineering, design, maintenance, support, training, and other specific areas. Forrester Research. (2017). Forrester Predicts Automation Will Displace 24.7 Million Jobs and Add 14.9 Million Jobs by 2027. Retrieved from https://www.forrester.com/Forrester+Predicts+Automation+Will+Displace+247+Million+Jobs+And+Add+149+Million+Jobs+By+2027/-/E-PRE9745; Cited in Passy, J. (2017). Cited in “This is how many U.S. jobs robots will create over the next 10 years”. Retrieved from https://www.marketwatch.com/story/this-is-how-many-us-jobs-robots-and-automation-will-create-over-the-next-10-years-2017-04-04

• Types of jobs created include robot monitoring professionals, data scientists, automation specialists, and content curators. Many new jobs will be in the fields of software, engineering, design, maintenance, support and training. Other future jobs include avatar designers, synthetic acting casting agents, roboticians, fluid interface engineers and programmable surface designers. As explained in World Economic Forum report “Future of Jobs,” jobs created will include AI and Machine Learning Specialists, Big Data Specialists, Information Security Analysts, User Experience and Human-Machine Interaction Designers, Robotics Engineers, and Blockchain Specialists. https://www.weforum.org/reports/the-future-of-jobs-report-2018


• There are several main AI technologies which are advancing and may change business operations. These include natural language generation, speech recognition, virtual agents, machine learning platforms, AI optimized...

- There are many projections about the future of work evolving through robots and humans working together across various sectors. For example, established and traditional jobs may need additional skills to monitor the interactions between humans and robots, such as newly specialized lawyers and new human resources positions to guide staff as robots enter the workplace. It is projected that by 2020, 20% of businesses will have workers that monitor and guide neural networks. Gartner. (2017). The Disruptive Power of Artificial Intelligence. Retrieved from https://www.gartner.com/smarterwithgartner/the-disruptive-power-of-artificial-intelligence/.

- A report by Capgemini, found 63% of organizations which have implemented AI at scale say AI has not destroyed any jobs in their organization. Rather, four out of five organizations say AI has created new roles in their organizations. These organizations also believe that AI will make complex or difficult jobs easier. Capgemini Digital Transformation Institute. Turning AI into Concrete Value: The Successful Implementers’ Toolkit. Retrieved from https://www.capgemini.com/wp-content/uploads/2018/01/turning-ai-into-concrete-value-the-successful-implementers-toolkit.pdf

**B. Abundance Advances**

“Abundance Advances” are technologies and practices which could become widely used in the 2020s and have the ability to lower the cost of living while supporting equity and sustainability. These tools can increase self-sufficiency and help families and communities meet some to many of their needs. These include technologies for low cost energy production and storage; in-home and in-community food production; and 3D printing of home goods, electronics, and even homes. While some are still theoretical, others are in labs, while still others are being deployed. But they hold the promise of changing conditions for low income households. The deployment of these technologies will need to be shaped so they are low cost, or low-income households can self-produce or co-produce them.

**Energy Abundance**

Energy abundance assumes low cost energy production and storage, usually linked to energy grid and local utilities. This is very possible in the 2020s. Advances in energy production include solar, wind, geothermal, tidal, hydrogen, small scale nuclear, and even fusion energy. In-home and in-community food production; and 3D printing of home goods, electronics, and even homes. While some are still theoretical, others are in labs, while still others are being deployed. But they hold the promise of changing conditions for low income households. The deployment of these technologies will need to be shaped so they are low cost, or low-income households can self-produce or co-produce them.

**Energy efficiency** – making homes more energy efficient is being pursued through several government, non-profit, and utility supported efforts. A major program is LIHEAP (the Low Income Home Energy Assistance Program). It provides assistance with heating and cooling expenses as well as weatherization and other energy related home repairs. In 2018, 48 states provided an estimated $374 million in this weatherization efforts in federal FY2017 ($1.8 billion was spent for heating assistance and 2.343 billion for cooling assistance, and $575 million for crisis assistance in the LIHEAP program in FY2017). [https://www.acf.hhs.gov/ocs/resource/liheap-fact-sheet-0](https://www.acf.hhs.gov/ocs/resource/liheap-fact-sheet-0)
Low and Moderate-Income Customers Collaborating with Utilities -- The Rocky Mountain Institute (RMI) is leading several efforts to have utilities collaborate with low-and moderate-income customers. RMI points out that:

“Roughly a quarter of U.S. households qualify for federal energy assistance. This is not a small segment. Low-income customers, on average, spend over 7 percent of their household income on energy, compared with only 2 percent for households with median income. This contributes to pressure at utilities and the public commissions that regulate them to make electric bills affordable. And beyond efforts to keep costs down across the board, utilities’ main tool to lower bills has been to offer discount programs to LMI customers funded through surcharges on other customers’ bills. The federal government provides its own bill assistance through the Low Income Home Energy Assistance Program (LIHEAP). Much smaller funding streams have been directed toward energy efficiency targeted to LMI customers. ... This funding is needed and will not go away soon...

...However, models are now emerging that combine clean energy technology, business model innovation, and new approaches to collaboration between utilities and customers. These models offer the promise that utility collaboration with LMI communities can go beyond subsidized bills to deliver greater value, both to suit local community needs and to support a more affordable, sustainable, resilient power system.”

There are a variety of design issues including ownership, financing, control, service delivery, pricing and compensation, which RMI explores with utilities and LMI customers and points out emerging examples of communities and residents generating and storing solar energy, integrated with their utility, and sometimes financed by their utility. See: https://rmi.org/finding-value-in-the-energy-future/

“Moore’s Law For Solar” Some have argued that the cost of solar energy production will follow a “Moore’s Law” like 50% reduction of costs on a cycle. For computer chips that was 18 months. For solar some have said that it is 48 months. In 2011 Ramez Naam stated that

…the efficiency of solar cells – the fraction of the sun’s energy that strikes them that they capture – is continually improving. In the lab, researchers have achieved solar efficiencies of as high as 41 percent, an unheard-of efficiency 30 years ago. Inexpensive thin-film methods have achieved laboratory efficiencies as high as 20 percent, still twice as high as most of the solar systems in deployment today......What do these trends mean for the future? If the 7 percent decline in costs continues (and 2010 and 2011 both look likely to beat that number), then in 20 years the cost per watt of PV cells will be just over 50 cents.


By 2019 Solar costs were already lower than coal produced energy and nearing the cost of energy produced from natural gas.

New technologies for solar cells are fueling the increasing efficiency of photovoltaic (PV) cells. These include nanotennas, kerovskite and perovskite materials. These are new materials and technologies that will likely provide highly effective solar cells.

Perovskite cells are an efficient photovoltaic technology that have the potential to be produced at low-cost. Hybrid perovskite cells may double the efficiency of solar cells, and ultimately lower cost.


Perovskite cells for solar energy are being created at the fastest pace in solar energy history. As reported in Solar Magazine, the cells must achieve increased durability and scalability of production to be a widespread use but do hold great potential.


**Installation and Storage costs for solar are decreasing** and are projected to continue to become less expensive.


As solar energy advances, costs will drop. As reported by the Solar Energy Industry Association (SEIA), from 2010-2017, the cost to install solar energy declined by 70% while solar grew in terms of installation and share of energy capacity across the United States. Labor costs, permitting and installation fees and supply chain costs related to solar likewise declined. SEIA. (2018). Solar Industry Research Data: Solar Industry Growing at a Record Pace. Retrieved from https://www.seia.org/solar-industry-research-data.


“Storage prices are dropping much faster than anyone expected, due to the growing market for consumer electronics and demand for electric vehicles (EVs). Major players in Asia, Europe, and the United States are all scaling up lithium-ion manufacturing to serve EV and other power applications. No surprise, then, that battery pack costs are down to less than $230 per kilowatt-hour in 2016, compared with almost $1,000 per kilowatt-hour in 2010. McKinsey research has found that storage is already economical for many commercial customers to reduce their peak consumption levels. At today’s lower prices, storage is starting to play a broader role in energy markets, moving from niche uses such as grid balancing to broader ones such as replacing conventional power generators for reliability, providing power-quality services, and supporting renewables integration”. David Frankel and Amy Wagner. Battery storage: The next disruptive technology in the power sector, McKinsey & Company. Retrieved from: https://www.mckinsey.com/business-functions/sustainability-and-resource-productivity/our-insights/battery-storage-the-next-disruptive-technology-in-the-power-sector.

Tesla has created a “peaker plant” substitute that stores energy, releasing it during peak hours. This Tesla “massive Powerpack battery project in Australia is quite financially successful, but now we get all the numbers as Neoen, Tesla’s partner in the project, files for IPO. The giant battery cost ~$66 million and it reportedly already made up to $17 million during the first ~6 months of operation. Tesla’s 100MW/129MWh Powerpack project in South Australia provide the same grid services as peaker plants, but cheaper, quicker, and with zero-
emissions, through its battery system”. Retrieved from: https://electrek.co/2018/09/24/tesla-powerpack-battery-australia-cost-revenue/

In Hawaii, in a demonstration of using solar and storage for low income housing, The Kahauiki Village development which provides housing for homeless families includes on-site solar power array and Tesla battery storage, donated by Tesla. “We’re looking at 98 to 99 percent reliance on solar energy for the fully built out village, which is exceptionally high. It’s essentially an off-grid development with HECO and emergency backup generators combined providing 1 to 2 percent,” says Tim Johnsson of PhotonWorks. “While utilizing the sun to generate nearly all of the project’s electricity provides significant environmental and energy security benefits, they are only secondary to the primary design consideration: (ensuring the) lowest possible operating cost, which ultimately makes the project more affordable to more families.” Retrieved from: https://hawaiihomemag.com/article/microgrid-major-savings

**Fuel Cell, Nuclear, and Other Energy Forms**

Other forms of sustainable energy, such as small-scale fusion and fuel cell production, may make low-cost energy more available. Small-scale fusion uses small power stations to produce more sustainable heating and electricity at a low cost. A fuel cell is an electrochemical cell that converts energy from fuel into electricity via an electrochemical reaction.

**Nuclear fusion power** has the potential to produce nearly four times the energy as nuclear fission with very low carbon emission and could provide accessible, clean energy. Tokamak Energy’s ST40, was successful in 2017 in achieving first steps toward fusion energy. Developers hope to have a successful power generator by 2025 and be delivering fusion energy to the grid (in the UK) by 2030. Lant, K. (2017, May 18). Mini Reactors Could Make Affordable Fusion Power a Reality by 2030. Retrieved from https://futurism.com/mini-reactors-could-make-affordable-fusion-power-a-reality-by-2030/


**Small scale nuclear (fission) power** stations are being proposed and in 2018 one developer argued they would be online in 8 years – by 2026. The company, NuScale, is aiming for commercial operations in 2026 for a plant in Utah comprised of a dozen 50-megawatt reactors. Retrieved from Polson, J. (2018, April 10). First Small-Scale Nuclear Reactor May Be Just Eight Years Away. Available at https://www.bloomberg.com/news/articles/2018-04-10/first-small-scale-nuclear-reactor-may-be-just-eight-years-away.

**Hydrogen fuel cells** have been proposed as a clean source of energy. Though it has been costly to develop the feedstock for hydrogen, recent research published in the Journal of Catalyst has found that ammonia can be used to stimulate hydrogen fuel. Cited in Robitzki, D. (2018, April 30). Cheap Hydrogen Fuel Was a Failed Promise – But its Time May Have Arrived. Retrieved from https://futurism.com/ammonia-hydrogen-fuel.

**Semi artificial photosynthesis** = as noted above: A breakthrough by University of Cambridge researchers in developing semi-artificial photosynthesis that uses algae to split water into its components of oxygen and hydrogen. This could yield a potent new generation of solar panels capable of producing unlimited amounts of energy, using only sunshine and algae. It could also provide low cost hydrogen for use by fuel cells. From: Market Watch (2018). Opinion: This Breakthrough in a type of photosynthesis could provide the world with unlimited energy, https://www.marketwatch.com/story/this-breakthrough-in-a-type-of-photosynthesis-could-provide-the-world-with-unlimited-energy-2018-09-12?siteid=yhoof2&yptr=yahoo
The capacities of fuel cells - According to an article published on Energy Central, fuel cell technology will change daily lives in five ways. These are: cleaner vehicles with less or no carbon emission, more reliable power for homes and buildings, enhancing mobile phone charge and design, incorporation into fossil fuel design to bridge the gap with renewables, and freedom from the grid towards independent and individual energy production. Hughes, J. (2016, February 15). Top 5 Ways That Fuel Cells Will Impact the Way We Live in the Future. Retrieved from https://www.energycentral.com/c/iu/top-5-ways- fuel-cells-will-impact-way-we-live-future.

3D Printing
3D printing for distributed manufacturing of goods may disrupt global supply chains and allow local and customized production of goods, often using sustainable and upcycled materials. 3D printing has the potential to impact the lives of low-income communities, including through 3D printing of home goods and even whole homes, transportation aids and vehicles, and prosthetics. Communities can become empowered through low-cost 3D printing, and as 3D printers become more affordable they can be shared and accessed in libraries, community centers or the equivalent of Kinkos stores. Housing for low-income can also be transformed by 3D printing.

3D printing can help alleviate poverty in several ways, including housing, argues Ashley Morefield in Borgen Magazine. Engineering constructed 10 single story homes in 24 hours at a cost of $5,000 each; transport vehicles, starting with mountain bikes have been 3D printed. A Harvard Business Review argued that “with five years (of 2015), one can expect to see fully automated, large-quantity manufacturing systems that are extremely economical” Morefield, A. (2016, October 14). Borgen Magazine, Five Ways 3D Printing Can Help Alleviate Poverty. Retrieved from http://www.borgenmagazine.com/3d-printing-alleviate-poverty/

3D printing of homes has already begun. For example, San Francisco based company Apis Cor built an entire small 400 square foot home through 3D printing in 24 hours. However, workers completed touches such as painting and some manual installation. Moon, M. (2017). A San Francisco startup 3D printed a whole house in 24 hours. Retrieved from https://www.engadget.com/2017/03/07/apis-cor-3d-printed-house 3D printed homes are also being manufactured at an economical price. Texas based company ICON in cooperation with New Story created a 650-square foot 3D printed home that costs $10,000; took 24 hours to complete; and meets the building codes of the City of Austin where it was built. New Story intends to build these in developing countries for a cost of $4,000. Resinger, D. (2018, March 12). This Company will 3D Print a House for $10,000. Retrieved from http://fortune.com/2018/03/12/sxsw-2018-3d-print-home-icon

Food Abundance
Food insecurity and inability to access healthy foods are common problems for many low-income communities across the nation. This may be challenged further with environmental and economic changes; however, there are technologies that may empower communities to increase self and shared sufficiency and produce nutritious, affordable food.
While conventional agriculture is being challenged by climate change – particularly drought, higher temperatures – but also floods and fires, in-community and in-home food production is growing, both conventional gardening and more high-tech options, such as hydroponics and aeroponics. In addition, 3D printing and cultured meat could change food patterns.

Aeroponics and hydroponics - Advances in food production include aeroponics and hydroponics (growing plants in an air/mist environment or water environment, respectively) to produce nutritious food in large amounts quickly and sustainably. This can be done in urban environments using vertical farms and other techniques. Vertical farming, which grows food usually with hydroponic or aeroponics methods in stacked layers, offers a more sustainable year-round crop production with high yields and climate resiliency. There are employment


**Cultured Meat** - Another area of food abundance is cultured meat, which is progressing in taste and affordability and may become a major sustainable and accessible source of producing protein. “When lab grown burgers first emerged, they were extremely expensive – and not particularly tasty. In 2013, Mosa Meat produced a cell-cultured beef burger which took months to produce and would have cost $1.2 million per pound to sell. But, in four years, the price has fallen dramatically. In four years, the price of lab-grown “meat” has fallen by 99% and there’s still a long way to go.” Purdy, C. (2017, June 5). There’s still a long way to go. Retrieved from [https://qz.com/997565/in-four-years-the-price-of-lab-grown-meat-has-fallen-by-96-theres-still-a-long-way-to-go/](https://qz.com/997565/in-four-years-the-price-of-lab-grown-meat-has-fallen-by-96-theres-still-a-long-way-to-go/)

Mosa Meat can currently produce meat that costs $27 to $45 per pound, and they will enter the market with a premium priced product in five years (thus, around 2021) and that in another five years (around 2026) the prices will be competitive to what people currently pay for beef. The lower competitive price, combined with a convincingly real taste and sensation, and environmental and animal rights motivations, may allow for widespread production and consumption of cultured meat. Burningham, G. (2016, February 28). Lab-Grown Beef Will Save the Planet – And Be a Billion Dollar Industry. Retrieved from [http://www.newsweek.com/2016/03/11/lab-grown-beef-will-save-planet-and-be-billion-dollar-business-430980.html](http://www.newsweek.com/2016/03/11/lab-grown-beef-will-save-planet-and-be-billion-dollar-business-430980.html)


**Clean Meat/Environment Protecting** - advocates of cultured meat argue for it as a way to get beyond animal agriculture and its harmful impacts on the environment – contributing to as much as 19% of greenhouse gases. And some are calling it the “clean meat” industry. But the cattle and beef industry is objecting to the terms cultured meat or clean meat and pressing for regulation to prevent the use of the term “meat”. They succeeded in having the state of Missouri where a bill passed with bi-partisan support that says that only products that are derived from harvested production livestock or poultry (which died by slaughter) can be called meat. From Haridy, R. (2018, May 20). Lab-grown meat not meat according to state of Missouri. New Atlas. Retrieved from [https://newatlas.com/lab-grown-meat-classification-bill-missouri/54687/](https://newatlas.com/lab-grown-meat-classification-bill-missouri/54687/)
There are issues of nutrients, micronutrients, allergens, and bacteria to be dealt with, but if Thomas Frey’s forecast above is correct, cultured meat and alternatives could be a major food by the late 2020s.

**More Abundance**

For a more extensive look at abundance, some entrepreneurs project that technology will advance incredibly rapidly in the upcoming two decades and enable the basic needs of water, food, energy, health and education to be met for every person on the planet.


**Eric Drexler – Radical Abundance** - And nanotechnology expert K. Eric Drexler, argues that in the 2030s the full flowering of nanotechnology will allow us to do nano-manufacturing of most of our needs at relatively low costs – hence the title of his book: Radical Abundance. For example: It will enable many of the items we use daily to be built with atomic precision. Transportation, construction, manufacturing, water and food production will become easier to do and so more accessible and beneficial to more people globally. See: Drexler, K. Eric. (2013). *Radical Abundance: How a Revolution in Nanotechnology Will Change Civilization*. New York: PublicAffairs

**C. Universal or Guaranteed Basic Income**

The Guaranteed Basic Income (GBI), also called the Universal Basic Income, the Negative Income Tax, the Citizen’s Income, and the Basic Income Guarantee has been proposed by conservatives and liberals in the U.S. for decades. Richard Nixon proposed the Negative Income Tax.


Y Combinator, the private investment company that launched Airbnb, did a small pilot test giving a handful of people in Oakland, California between $1,000 and $2,000. A larger study with 3,000 people in two states is being planned. Weller, C. (2017, September 21). One of the biggest VCs in Silicon Valley is launching an experiment that will give 3,000 people free money until 2022. Business Insider. Retrieved from http://www.businessinsider.com/y-combinator-basic-income-test-2017-9.

In an effort to boost the economy and support families in poverty, Stockton, California is piloting a basic income program, and will provide participants $500 each month. The Stockton experiment aims to collect data on how the unconditional money can impact the economic, health and wellbeing aspects of low-income families. Langone A. (2018, April). Why This 27-year-old Mayor is Giving His City’s Poorest Residents $500 a Month – No Strings Attached. Retrieved from http://time.com/money/5243564/why-this-27-year-old-mayor-is-giving-his-citys-poorest-residents-500-a-month-no-strings-attached/.

Financing a Basic Income

There are a range of levels at which the GBI has been proposed, e.g. $10,000 yearly income plus $3,000 for health insurance (Charles Murray); up to $32,000 yearly in Switzerland. The level used in Scenario 3 is the $12,000 yearly for adult citizens and $4,000 per child proposed by Andrew Stern.


That is $12,000 and $4,000 in 2015 dollars; in Scenario 3 we assume that these figures would be adjusted for inflation, and so would be higher when they begin in the 2020s, and they would grow with inflation after they are established.

Stern argues that the costs of a GBI would be roughly $3 trillion yearly. An income of $12,000 for every adult, would cost between $1.75-$2.5 trillion in federal funds each year. The $4,000 for each person under 18 would add another $296 billion. Stern’s book proposed several ways to pay for the UBI. Below is a list of options for funding GBI from Stern and other proponents:

- Ending all or many of the current 126 welfare programs, which cost $700 billion in government and $300 billion state government
- Eliminating food stamps (save $76 billion), housing assistance ($49 bil.), and EITC ($82 bil.)
- Adjusting long term retirement policy for future generations, but not changing Social Security for those who have already been contributing to the system
- Creating a new and more cost effect non-employer-based healthcare system
- Some redirection of government spending and taxation
- Raise revenue by eliminating all or some of the federal governments $1.2 trillion in tax expenditures; do away with reductions such as investment expenses, preferential treatment of capital gains, foreign taxes, charitable contributions, mortgage interest, and accelerated depreciation.
• Look at trimming expenditure on the federal budget, such as reducing military budget (current $600 million), farm subsidies ($20 billion), or subsidies to oil and gas companies ($30+ billion)
• Increased revenue from new sources
• Consider a value added tax (VAT) of 5 to 10% on the consumption of goods and services, with all revenue funding basic income
• Implement a Financial Transaction Tax (FTT) (also known as the “Robin Hood Tax” and “Tobin Tax”) a tax on financial transactions, such as a federal tax on stock sales
• Wealth tax, a levy on the total value of personal assets, including housing and real estate, cash, bank deposits, money funds, stocks, etc.
• Carbon Tax, which at a rate of $15/ton of CO2 would bring $80 billion in annual revenue, or about $250 per U.S. resident
• A “common goods tax” such as the one placed on oil to fund the Alaska Permanent Fund

D. Affordable housing options
Housing remains a major human need. Housing insecurity brings a series of other needs. Communities around the country are and will use a variety of approaches to increase the stock of low and very low-income housing, including:
• Rezoning to allow secondary living units on the property of single family homes and encouraging building on empty space in the yards around homes;
• Allowing a higher number of unrelated individuals to live in the same house;
• Encouraging sustainable, energy efficient, low cost construction of new units;
• Fostering neighborhood parking and driving regulations to dampen traffic from increased residents;
• Taxing unoccupied homes;
• Prohibiting or taxing AirBnb and related uses of rental properties or taxing that use to provide a fund to make other properties available;
• Require or incentivize landlords to accept housing vouchers;
• In addition to federally funded vouchers create state or locally funded vouchers;
• This serves to help alleviate concentrations of poverty by giving voucher holders more options of where to live.
• Tax construction profits to add to the funds for low income housing development;
• When low cost solar and other sustainable energy production and storage becomes available, require or incentivize landlords to install this and pass the savings on to renters;
• Or enable, through loans from utilities or others, to install this equipment; paying the loans off with the energy savings.
• Adjust regulation to support fast construction of safe, sustainable and energy efficient new developments that include very low-income housing;
• Support and encourage alternative construction, including 3D printing of housing components and repurposed materials, using modular and “tiny homes”;
• use of local 3D printing of home parts with quick on-site assembly will be available in many communities in the 2020s1
• Use various combinations of these approaches to deconcentrate poverty.
E. Equity Rising

Equity is a value that has driven and is driving movements for social, political and economic changes in the US and globally, with growing visibility and diverse manifestations in recent years. Equity has become more refined in recent decades, accompanied by attitudes supporting inclusion and rejecting exclusion. Some of these movements focus on race or gender within the larger framework of equity. These are sometimes understood as social justice movements, and are responses to oppression, injustice, inequity or driven by other cultural ideologies for progress.

Equity rising reflects social and political movements towards restructuring a more equitable society. In the past, policy and social constructs have supported slavery, discrimination of all kinds (racial, gender, caste, economic), differences in health, wealth, and wellbeing. But, in most of these areas, social movements and evolutions have led to some degree of legal and regulatory protection, policies and community supports towards greater equity.

Examples of equity rising can be found in our past and our present. For example, in the 20th century the Civil Rights Movement had to overcome the segregation and discrimination of Jim Crow, with manifestations in housing, purchasing rights, schools, voting, jobs, health care and other services. The Civil Rights Act of 1964 represented a major indicator of society’s mind change on discrimination. Other mind and policy changes include voting rights for women, environmental protections, employment and pay equity, education changes. More recently the relative rapid protection of LGBTQ rights and same-sex marriage reflects continuing changes of mind (and heart). In all of these cases, unfairness has certainly not disappeared – it persists in ideologies, structural institutions and policies. However, certain discrimination and other offences are no longer legally acceptable.

This equity rising reflects a maturing of thought on the components of opportunity – a recognition of social and economic determinants, including structural racism and exclusion. The growth of this awareness can be traced to many developments in the U.S. and globally. The equity movement is a real and tangible pathway towards new ways of understanding and evolving human services and human progress.

Equity, which ensures that each person has what they may need to succeed, is a different approach to fairness than equality, which promotes treating everyone the same. Equity acknowledges that not everyone is equally or fairly positioned in society, which relates to human and social services by helping to understand how to best distribute and redistribute resources. Poverty reduction and wealth building, along with social progress, may be driven and achieved through equity as a guiding value. Equity is a powerful lens for understanding and advancing human services and human progress.

These changes often include a time of rising awareness, with more mainstream rejection of injustices. With considering this movement of equity rising there are examples from increased use of the word “equity” in goals and policies. This is often preceded by changing dialogues that acknowledge inequities, past wrongs, and the need for changes. Dialogues and demonstrations lead to changes in proclamations that lead to changes in policies. Simultaneously thinking and action on the part of individuals, families, and organizations (businesses and non-profits) parallel these developments.

Examples of “Equity Rising” include:

World Health Organization – Health for All Goal Requires Equity – in revising the WHO “Health For All” set of goals in the mid-1990s, WHO added “equity” to the list of conditions that must be met before a country could declare that it had achieved health for all. Those values include equity, solidarity, ethics, gender and human rights.
U.S. Healthy People Objectives for the Nation Show Equity Rising - As we approach each new decade the Federal Government proclaims the health objectives for the nation. The last 30 years show equity rising in these objectives. In the late 1990s, the nation set its Healthy People 2010 Objectives for the Nation, including two overarching goals: “increase quality and years of healthy life” and “eliminate health disparities.” For 2020, these goals were amended to say “achieve health equity, eliminate disparities, and improve the health of all groups.” The draft 2030 overarching goals include “eliminate health disparities, achieve health equity, and attain health literacy to improve the health and well-being of all.”

Global Goals – The Sustainable Development Goals - support equity - The family of nations developed a set of global goals promulgated at the turn of the Millennium in the year 2000. These Millennium Development Goals were adopted or agreed to by every nation on the globe. Approaching 2015, with some goals achieved, other not, the global community developed a successor set to goals focused on 2030. These Sustainable Development Goals (SDGs) include ending poverty, and increasing equity in food and nutrition, health, education, gender rights, work, access to resources, and climate change protections. https://www.un.org/sustainabledevelopment/sustainable-development-goals/

Growing awareness and discussion of inequities:

Health inequality - A 2017 report by Health Affairs entitled “The United States Leads Other Nations In Differences By Income in Perceptions of Health and Health Care” (See: https://www.healthaffairs.org/doi/abs/10.1377/hlthaff.2017.0006) which found that health divides between the highest and lowest income populations in the United States are some of the worst in the world.


Wealth and income disparity are even more marked between racial groups in the United States. The 2018 article “The Racial Wealth Gap: Addressing America’s Most Pressing Epidemic”, published on Forbes.com, identifies the problem of racial wealth inequality and sites the following statistics:

- Higher than one in four black household have zero or negative net worth, in contrast to the less than one in ten white families without wealth or net worth (see The Economic Policy Institute, The Racial wealth gap: How African-Americans have been shortchanged out of the materials to build wealth, 2017, https://www.epi.org/blog/the-racial-wealth-gap-how-african-americans-have-been-shortchanged-out-of-the-materials-to-build-wealth).

Incarceration Rates - The Civil Rights organization NAACP has a “Criminal Justice Fact Sheet” (http://www.naacp.org/criminal-justice-fact-sheet/) which details incarceration trends in America, stating that “Hispanics and African Americans make up around 32% of the US population but comprised 56% of all incarcerated people in 2015...African Americans and whites use drugs at similar rates, but the imprisonment rate for African Americans for drug charges is nearly 6 times that of whites” See more: University of San Francisco, The Importance of Social Equity in Public Administration, https://onlinempadegree.usfca.edu/news-resources/infographics/the-importance-of-social-equity-in-public-administration/

Examples of current Equity movements and programs:
Black Lives Matter - Black Lives Matter is a national movement with more than 30 chapters which utilized social media to leverage political advocacy promoting racial justice and action against violence inflicted upon African American communities. See more: https://blacklivesmatter.com/about/herstory/

The "Me Too" Movement -- The “Me Too” is a national movement which has gained momentum in supporting survivors of sexual assault and promoting the end of sexual violence. See more: https://metoomvmt.org/

State and local government equity efforts – Conscious recognition of systemic inequities is growing in state and local government overall and in specific policy areas.

Health Equity Offices - Many of the 3000 state and local health departments in the U.S. have created or expanded their Health Equity offices. These generally seek to “advance the capacity of local health departments to confront the root causes of inequities in the distribution of disease and illness through public health practice and their organizational structure”. https://www.naccho.org/programs/public-health-infrastructure/health-equity

City Wide Equity Programs – Seattle Race and Social Justice Initiative (RSJI) – This is Seattle’s “commitment to eliminate racial disparities and achieve racial equity in Seattle”. Since Seattle began this effort focused on institutional racism in 2009 other cities and Counties have established their own equity initiatives. https://www.seattle.gov/rsji

Cities Using Equity Analysis to Better Allocate City Resources – Pittsburgh tracks equity indicators across multiple areas. Their analysis of these “is a start towards untangling the deep roots of inequity that exist in the city” according to Pittsburgh Mayor Bill Peduto. The results will be used to better allocate city resources. See https://www.post-gazette.com/local/city/2019/04/18/City-second-equity-indicators-report-shows-racial-disparities-still-prominent-in-Pittsburgh/stories/201904180148


Truth and Reconciliation Discussions Growing- Modeled after South Africa’s Truth and Reconciliation efforts after apartheid, communities, churches and governments are beginning efforts to address historic and often ongoing systemic injustice. https://episcopalmaryland.org/ministries/truth-reconciliation-commission/

The Truth and Reconciliation Commission of the Episcopal Diocese of Maryland is an ongoing commission focused on enhancing existing efforts to eradicate racism, researching the history of slavery in the diocese and its residual impact, as well as reparations. https://episcopalmaryland.org/ministries/truth-reconciliation-commission/

The Black Butterfly New Deal - Baltimore Reparations Proposal – In Baltimore, community groups have tracked the impacts of slavery, Jim Crow policies, lynching, residential segregation, redlining, job exclusion, substandard education, and persistent disinvestment in specific neighborhoods. Led by Morehouse State University Professor Lawrence Brown, and the Baltimore Center for Black Workers, they have developed a sweeping plan for Baltimore Neighborhood Reparations and opportunity enhancements for Black Workers. See: https://bmoreblackworkercenter.org/our-report

House Holds First Hearing on Reparations in Decades – In June of 2019 the House Judiciary Committee explored reparations for slavery. Ta-Nehisi Coates, author of an influential 2014 Atlantic magazine article “The Case for Reparations” was among those testifying. Part of the discussion is whether the reparations are for the “original sin” of slavery, or the ongoing systemic racism and inequities related to the lingering effects of the slave
system, in terms of discrimination, hostility, isolation, and exclusion.

https://www.mercurynews.com/2019/06/19/house-holds-first-hearing-on-reparations-in-decades/

### F. The Human Services Value Curve

In developing these scenarios, we looked for human service visions, or descriptions of their preferred future states. One leading contender for the preferred future for the field is the Human Services Value Curve. Developed by Harvard’s Technology and Entrepreneurship Center’s Leadership for a Networked World with American Public Human Services Association (APHSA). They argue that at the desired progression in value can best be described from the point of view of the consumer in this way:

- At the regulative level, consumers receive a specific product or service that is timely, accurate, efficient and easy to understand.
- At the collaborative level, consumers “walk through a single door” and have access to a complete array of products and services that are available “on the shelf.”
- At the integrative level, products and services are combined into packages, and designed and customized with input from the consumer themselves, delivered in the most convenient ways, with the objective of best meeting the consumer’s true needs and driving positive outcomes.
- At the generative level, those providing products and services are joining forces to make the consumer’s overall environment better for them, resulting in value that is broader and more systemic than an individual or family might receive.

More information available:
http://www.aphsa.org/content/dam/aphsa/pdfs/Resources/Publications/TOOLKIT_Moving%20through%20the%20Value%20Curve%20Stages_.pdf

A group of local human service agency leaders within APHSA developed the “local vision” for the human services value curve in terms of what it would include, namely these core components:

- A resolute focus on a person-centered approach to casework and service delivery
- Testing and implementation of innovative evidence-based practices
- Partnering with other organizations and systems across sectors
- An integrated infrastructure, with information technology systems that enable and produce cross-system data; led first by the integrated health and human services information system.
- A workforce of “skilled tradespeople” able to build community well-being— with the competencies to deliver evidence-based practices
- Effective and efficient internal change management processes that enable leaders to continuously improve their organizations
- Accountability processes that clarify outcome measures and quantify impacts, including reduced health care costs, improved health, and greater self-sufficiency.
- And these principles guiding human services:
  - Solid prevention- and strengths-based orientation
  - Two-generation and multi-generation approaches
  - Holistic, person-centered, and customized service planning
  - Both pre-trauma and trauma-informed strategies
  - Sustained attention on fatherhood engagement
  - Commitment to defining and tracking of a set of common indicators across all well-being and health domains.

See: A NEW PATHWAY TOWARD PROSPERITY AND WELL-BEING, A Concept Paper by the National Council of Local Human Service Administrators, May 16, 2016